




89955



Class _____ *No.* _____

THE EDITOR

275



Digitized by the Internet Archive
in 2014

Official Organ of the American Homœopathic Ophthalmological, Otological
and Laryngological Society

THE JOURNAL OF OPHTHALMOLOGY OTOLOGY AND LARYNGOLOGY

Devoted to the Interests of Exclusivists, Specialists and General Practitioners.

EDITOR:
GEORGE W. MACKENZIE.

COLLABORATORS:

HOWARD P. BELLOWS, M. D.,
BOSTON, MASS.
ELMER J. BISSELL, M. D.,
ROCHESTER, N. Y.
JAS. A. CAMPBELL, M. D.,
ST. LOUIS, MO.
ROYAL S. COPELAND, M. D.,
NEW YORK, N. Y.
C. GURNEE FELLOWS, M. D.,
CHICAGO, ILL.
EDGAR J. GEORGE, M. D.,
CHICAGO, ILL.
G. DEWAYNE HALLETT, M. D.,
NEW YORK, N. Y.
BURTON HASELTINE, M. D.,
CHICAGO, ILL.
ADOLPH E. IBERSHOFF, M. D.,
CLEVELAND, O.
FRANCIS B. KELLOGG, M. D.,
LOS ANGELES, CAL.
WM. R. KING, M. D.,
WASHINGTON, D. C.
E. H. LINNELL, M. D.,
NORWICH, CONN.

G. J. ALEXANDER, M. D.,
PHILADELPHIA, PA.
J. L. MOFFAT, M. D.,
ITHACA, N. Y.
GEORGE W. McDOWELL, M. D.,
NEW YORK, N. Y.
D. A. MacLACHLAN, M. D.,
DETROIT, MICH.
DEAN W. MYERS, M. D.,
ANN ARBOR, MICH.
FRANK O. NAGLE, M. D.,
PHILADELPHIA, PA.
GEO. B. RICE, M. D.,
BOSTON, MASS.
PHILLIP RICE, M. D.,
SAN FRANCISCO, CAL.
THOMAS L. SHEARER, M. D., C. M.,
(EDIN.) BALTIMORE, MD.
DAVID A. STRICKLER, M. D.,
DENVER, COL.
DOUGLAS MACFARLAN, M. D.,
PHILADELPHIA, PA.
WM. H. PHILLIPS, M. D.,
CLEVELAND, O.

VOLUME XX

JANUARY TO DECEMBER, 1914.

INDEX TO VOLUME XX

CONTRIBUTORS.

Alexander, G. J.	209	Mackenzie, G. W., 24, 124, 131, 133, 161, 167, 173, 199, 526	
Aten, W. H.	181	McBean, George	165
Ballenger, W. L.	166, 172	McCleary, J. R.	132, 468
Bellows, H. P.	400	McLean, Wm.	432
Brooks, E. D.	123	Metzger, I. D.	81
Campbell, J. A.	116, 410	Miller, F. E.	22, 36
Casseday, F. F.	259	Moffat, J. L., 38, 179, 225, 313, 355, 417	
Champlin, H. W.	327	Muncy, W. M.	66
Clark, L. H.	219	Myers, D. W.	55, 68, 69
Clay, J. F. V.	291	Nagle, F. O.	507
Conklin, R. C.	305	Norton, A. B.	495
Copeland, R. S.	503	Palen, G.	604, 620
Cross, A. E.	71, 504	Patterson, J. M.	600
Denman, I. O.	504	Perrine, J. K. M.	290
Dowling, J. Ivimey, 51, 67, 113, 123, 130, 227, 286, 339, 505		Phillips, W. H.	116, 130, 175
Fellows, C. G.	68, 339	Rice, G. B.	160, 412
Foster, H. A.	114, 120, 125	Ritchie, F. G.	463, 505
George, E. J.	38, 442	Rowland, W. D.	249
Gleason, E. B.	438	Rumsey, C. L.	594
Gowens, H. L., Jr.	348, 473, 516	Sage, F. C.	124
Hallett, G. DeW.	392	Sawyer, C. E.	146
Hansen, A. S.	158	Schenck, H. D.	603
Haseltine, B.	111, 117	Shepard, G. A.	114, 394, 501
Hetrick, L. E.	123	Smith, W. H.	519
Hillegas, W. M.	262, 340	Sowers, A. B.	128
Homan, R. W.	23	Sternberg, J. E.	379
Hubbard, C. H.	352, 480, 481	Stickney, O. D.	298
Hutchinson, J.	137	Street, R. H.	581
Jones, Everett	601	Suffa, G. A.	5, 166, 460
Kingsbury, B. F.	477	Teets, C. E.	126
Kreider, W. B.	328	Thompson, Le Roy	330
Lewis, F. D.	502	Wells, D. W.	379
Lewy, A.	165, 169, 174	Wilcox, DeWitt G.	231, 239, 274
Lloyd, R. I.	180		
Macfarlan, Douglas	83, 256		

EDITORIALS.

Announcement	326
Announcement	559
Adieu	326
Conservatism vs. Radicalism in the Treatment of Eye, Ear, Nose and Throat Diseases	429
Curing With Potentized Antitoxin	249
Farewell	325
Gorgas for the National Department of Health	430
Greetings	375
General Practitioner, The—and Injuries of the Nose	149
Make the Degree M. D. a Post-Graduate One	197
Medical Ethics	53
New Requirements by the O., O. and L. Society	185
Official Recognition of Homœopathy	247
Open Letter from the President of the O., O. and L. Society	377
Otology and General Surgery	559
Policies of the JOURNAL	373
President J. Ivimey Dowling	3
Presidential Address	286
Sense of Smell	I
The American Institute in 1915	560
To Dr. John L. Moffat	373
To the Members of the Amer. Hom. Ophthal., Otol, and Laryngol. Society	376
Was Mann Gethan Hat Mann Kann Thun	109
What Constitutes a Specialist?	493

CONTRIBUTIONS.

Accommodation of Muscular Co-ordination, with Discussion, Suffa.....	5
Amygdalokelyphy, Miller	26
Anomalies of Hearing, Bellows	400
Anterior Ethmoiditis a Factor in Orbital and Ocular Diseases, Clark	219
Atropin in Ophthalmology, Gowens	516
Case of Diphtheria Treated with Potentized Antitoxin, Macfarlan	256
Case of Pituitary Disease, Phillips	175
Case of Staining the Conjunctiva with Indelible Ink, Perrine	290
Case of Staining the Conjunctiva with Indelible Ink, Perrine	290
Cataract Extraction in Its Closed Capsule Without Iridectomy, with Discussion, Myers	55
Chronic Ethmoid Disease and Its Relation to Asthma, with Discussion, Haseltine	III
Colored Spectacles and Electric Light Globes, Casseday	259
Consideration, A—of Some of the Neurotic Conditions of the Nose and Throat, Rice	412
Conservation of Vision, with Discussion, Norton	495
Conservative Treatment of Intracranial Disease, Gleason	438

MAR 15 1915

89955

	PAGE.
Corneal Ulcers, Conklin	305
Coughs, Jones	296
Dionin in Ophthalmology, Gowens	473
Diseases of the Maxillary Sinus, Mackenzie	199
Do the Tonometers in Use Today Record the True Intraocular Tension? McLean	432
Early Treatment of Fractures of the Nasal Bones, with Discussion, Foster.	120
Effects of Telephone Operating upon the Eyes, with Discussion, Thompson.	330
Eserin in Ophthalmology, Gowens	608
Ethyl-Morphin-Iodid, Hillegas	608
Homœopathic Materia Medica and Therapeutics; Preliminary Report of Three Cases Treated Recently with Nux Vomica, Mackenzie	133
Homœopathic Therapeutics of the Pharynx and Larynx, with Discussion, Teets	126
Hyperthyroidism, Smith	519
Hypophysis Tumor, Nagle	507
Indicated Remedy, The, Hutchinson	137
In Memoriam, Dr. Frank Boynton Hopkins Street	581
Labyrinthine Tests, with Discussion, Mackenzie	160
Local Anæsthesia and Throat and Nose Suturing Miller	36
Malignant Disease of the Larynx, with Discussion, Rice	160
Musculo-Capsular Advancement with Report of Cases, with Discussion, Wells and Sternberg	379
Nasal Breathing Inches as Factors in Chronic Affections, McCleary	468
New, A—Conception of the Ocular Movements with a New Strabismus Operation Based Thereon, with Discussion, George	442
Occupational Diseases of the Eyes, Hillegas	340
Plantus Occidentalis the "Lancet" of the Eyelids, Hubbard	352
Post-Graduate Course in Vienna, Alexander	209
Prompt Curetting of Keratitis Ulcus, with Discussion, Champlin	327
Sarcoma of the Mediastinum Presenting Early Laryngeal Symptoms, Clay.	291
Simple Chronic Glaucoma, with Discussion, Cross	71
Sinus Diseases Affecting the Eye, with Discussion, Rumsey	
Some Effects of Accommodation on Muscular Co-ordination, with Discus- sion, Suffa	5
Some Observations Made in Atypical Cases of Mastoiditis, Mackenzie.....	526
Some Points About the Initial Incision in the Submucous Operation, Mac- farlan	83
Tests of Hearing, with Discussion, Lewy	169
Tonsillar Hæmorrhage and Its Treatment, Stickney	298
Transparent Preparations for Bone and Cartilage, Kingsbury	477
Treatment of Congenital Amblyopia, Campbell	410
Tuberculosis of the Choroid, Hillegas	262
Unguentum Hydrargyri Oxidi in Eye Diseases, Gowens	348
Vapor Anæsthesia in Surgery of the Head and Neck, Rowland	249
Which Is the Greater Affliction, Blindness or Deafness? Campbell	

HOMŒOPATHIC MATERIA MEDICA AND THERAPEUTICS.

Aconite Napellus in Eye Diseases, Hubbard	480
Atropia vs. Belladonna, George	38
Auditory Vertigo Cured with Chinin Sulph. 3x, Aten	181
Hom. Mat. Med. and Thera., Moffat	38
Kali Bichromicum in Quiet Iritis, Lloyd	180
Nux Vomica Cases, Mackenzie	133
Remedies for the Ear, Dewey	534
Some Eye Remedies, Moffat	179, 225, 313, 355, 417
Taking the Case, Rabe	268
The Indicated Remedy, Hutchinson	137
Thlaspi Bursa Pastoris, Hubbard	481
Usually Indicated Remedies for Diseases of the Nose, Townsend	267

CURRENT LITERATURE.

A Case of Gonorrhœal Conjunctivitis with an Interesting History, Payne...	43
A Case of Late Infection after Elliott's Trephining, Gifford	190
A Case of Panophthalmitis Caused by Bacillus Subtilis Following Cataract Extraction, Butler	188
A Case of Sarcoma of the Lacrimal Sac, Butler	97
Active Immunization in Diphtheria and Treatment by Antitoxin, Pohr and Zingler	483
Acute Glaucoma Statistics, Morax and Sourriere	424
Affections of the Eyes Resulting from Sinus Involvement, Miller	187
A Hitherto Undescribed Anomaly of the Macular Retina, Gradle	43
An Eye with Double Perforation by a Foreign Body not Located by Roent- gen Rays, Alt	187
A Note on the Progress of Some Cases of Retinitis Punctata Albescens, Nettleship	185
A Rare Case of Bilateral Optic Neuritis, Barch	96
Arsenicum Iodid in Coryza, Bishop	237
Astigmatisme postoperatoire dans l'extraction de la cataracte avec glissement de la conjunctive, Van Lint	360
Cataract Extraction with a Small Free Conjunctival Flap, Truc	235
Central Scotoma and Blind Spot Anomalies, Fridenberg	47
Chicago Laryngol. and Otol. Society (Concl.)	362
Complete Paralysis of Oculomotor Nerve Following Injury, Cobb	190
Conjunctival Flap, Conjunctival Incision, Suture of the Cornea and Suture of Van Lint in the Operation for Cataract, Vacher and Denis	538
Correction of Nasal Deformities by the Injection of Paraffin, Smith	423
De la biiridectomie ou iridectomie double supérieure puis inférieure com- binée dans les cataractes adhérentes de l'uveite chronique, True	102
De la methode fistules anti-dans le cure glaucome chronique, Le Grange....	424
De l'audibilité du son. Applications a la physiologie et a la pathologie de l'audition, Escat	314
De l'osteomyélite du rocher, Bar	420

	PAGE.
Desirability of Greater Uniformity in Tests for Heterophoria, Howe.....	191
Die Behandlung von ulcus serpens corneæ mit Zincum Salicylatum, Shoute.	425
Diagnosis of and Indications for Treatment of Suppurative Diseases of the Nasal Accessory Sinuses, Levy	142
Ein Fall von amaurose nach Blepharoasasmus, Uhthoff	488
Enucleaton with Insertion of Hollow Gold or Glass Sphere, Greenwood....	97
Erfahrungen ueber die Behandlung, von Hornhau geschwüren und Wund en- fekstionen am auge mit Iodtinkur, Bahr	425
Ethmoid Abscess Caused by the Bacillus fusiformis of Plant, Vincent	139
Eye Lesions Resulting from Autointoxication, Thompson	364
Freezing the Inferior Turbinate, Gradle	486
Glaucomatous Vertigo, Dor	40
Hereditary Syphilis in the Ear, Sheppard	421
Hereditary Syphilis in the Nose and Throat, Crane	421
Hypertrophic Rhinitis as a Symptom of a General Complaint, Béal	487
Immature Cataract; Experience with Homer Smith's Operation, Walters....	488
Importance of Testing the Accommodation as a Routine Measure in Re- fractive Work, Duane	94
Indications et technique de la trépanation labyrinthique, Hautant.....	232
Indications for the Correction of Deviations of the Nasal Septum by the Gleason Operation	139
Influence of Diet Upon the Growth and Recurrence of Adenoids, van der Bogert	319
Klinische Monats. f. Augenheilk, Inhalt des September heftes, 1914	
L'application de l'anesthesie locale a la laryngectomie pratique suivant le procede du Glucc, Tapia	269
Latent and Tertiary Syphilis in Diseases of the Nose and Throat, Borden..	540
La Vision des nystagmiques, Lafon	184
L'hémorrhages des gaines du nerf optique, Dupuy-Dutemps	271
L'Otospongiose-Otosclérose, Lermoyez	358
Medical Journalism from a Disinterested Standpoint, Sterne	319
Myopia, Etiology and Optical Management, Le Fever	40
Nasal Obstruction as a Predisposing Factor in the Etiology of Pulmonary Tuberculosis, Pryor	140
Ocular Tuberculosis in Relation to the Nose and Throat, Luedde	613
Oculomotor Paralysis of Otic Origin, Westmacott	484
On Some of the Causes of Failure after Elliott's Sclerico-corneal Trephining, Stephenson	99
On the Technique of Evisceration, Herbert	188
Oral Complications of the Exanthemata, Borden	616
Oral Endamebas, Smith, Middleton, Barrett	618
Paralysis palpébrale provoquée dans l'opération de la cataracte, van Lint....	360
Psammosarcoma of the Orbit in a Girl of Thirteen. Successful Removal with Preservation of the Eyeball and Its Functions, de Schweinitz....	614
Quelle est le meilleure méthode d'extirpation du larynx? Botey	91
Results of the Operative Treatment of Glaucoma from the Earliest Times	

	PAGE.
until Today, Sulzer	539
Salvarsan gegen die sympathische Augentzündung, Siegrist	100
Sclero-corneal Trephining in Glaucoma, Peter	190
Sclerotomy vs. Sclerectomy, Herbert	168
Science in Personal Journalism, Crothers	319
Some Ways in Which This Society can Exert Influence, Moffat	319
Spontaneous Dislocation of the Lenses with Report of a Case, Würdemann..	41
Staphylôme ciliaire ablation avec conservation du globe oculaires, Genet....	90
Streptococcis Throat Diseases, Ball	238
Subconjunctival Injections of Cyanide of Mercury in Ophthalmology, Pryor.	140
Surgery of the Maxillary Antrum. Andrews	362
Sur la Conduction osseuse dans la syphilis, Beck	314
Sur un cas spécial de papilomes multiples du conduit auditif et sur un nouvelle maladie du conduit, Citelli	91
The Absence of Cicatrization of the Iris after Operation or Injury, Mc- Burney	97
The Blood Clot Method in Mastoid Operation, Andrews	236
The Case of School Children at Moorfields, Brown	43
The Economic and Social Aspect of Deafness, Hays	94
The Interrelation Between Systemic Diseases and Diseases of the Eye, Nose and Throat, Lensman	362
The Intrascapular Cataract Operation in Immature Cataract, Fisher.....	318
The Operative Treatment of High Myopia, Lambert	191
The Pathological Tonsil, Miller	273
The Problem of the Stammering Child, Kenyon	482
The Relief of Intraocular Tension, La Grange	539
The Significance of Subnormal Temperature and Its Relation to Insomnia and Loss of Hearing, Gordon	273
The Staining of the Endothelium in Descemet's Membrane, Rados	
The Use of Antitoxin in Diphtheria, Woody	483
The Use of Vaccine in the Treatment of Chronic Diphtheria Carriers, Weil.	
The Visual Discrimination of Two Points, Parsons	185
Toast, "To the Ladies," Butler	92
Traitement Chirurgical des stenoses fonctionelles du larynx avec cornage, Sargon et Toubert	269
Traitement radical par voie endonasale de la dacryocystite suppurée chroni- que, Taptas	232
Treatment and Surgery of the Accessory Nasal Sinuses for the Relief of Ocular Diseases, Dowling	142
Tuberculous Affections of the Ear, Farrell	192
Ueber Blutungen in der Retina bei Miliartuberculose, Stock	233
Ulceromembranous Angina (Vincent's), Sutter	102
Un sel quinine bacteriotrope du pneumocoque Ethylhydrocupreine contra l'ulceri infectieux de la cornee, Darier	425
Value of Roentgenography in Diagnosis of Diseases of Larynx and Trachea, Iglauer	

	PAGE.
Zur pathologischen Anatomie des Glaucoma Simplex, Ronne	45
Zur therapie des ulcus Corneæ Serpens, Kuhnt	425

ABSTRACTS.

Acquirement of Visualizing Power Following Extirpation of a Cerebral Tumor	277
Acute Thyroiditis Following Tonsillitis	369
Alexin	370
Alypin	107
Anesthesia by Mustard Oil Inhalations	37
Atrophic Rhinitis, Scarlet-red for	369
Amblyopia from Hæmorrhage	276
Bedeutung der Retrobulbar Neuritis Als Frub-Symptom der Multiple Skleroses und Ihre Relative Häufigkeit	492
Bitemporal Hemianopsia	239
Bilateral Facial Palsy, Case of Throckmorton	625
Biophane	240
Blindness from Felix Mas	239
Blindness Following Acute Post-Hæmorrhagic Anemia	240
Blood Supply of the Tonsil	368
Chronic Local Infection of the Nose, Throat, Mouth and Ear, Beck.....	
Clinical Studies on the Curative Action of Leucocyte Extracts in Infection Processes, Hiss and Dwyer	547
Celiophane	240
Complications that May Arise During or after Operation for Correction of Septal Deviation	104
Clinical Significance of Congenital Cataract	193
Complications in Tonsillectomy	70
Cyst of the Iris Treated by Electrolysis	107
Deaf Mutism from Purpura Hæmorrhagica	369
Distinctive Degrees	276
Epipharynx in Children	365
Faucial Tonsils a Gateway to General Infection	622
Formaldehyde as an Escharotic	104
Furunculosis of the External Auditory Canal, Alcohol in the Treatment of..	366
Formamint	276
Gonorrheal Conjunctivitis	368
Influenzal Otitis	194
Intrinsic Cancer of the Larynx	547
Latent Mastoiditis	366
Methylene Blue for Eye Affections	370
Mumps and Pharyngitis	240
Neuritis Retrobulbaris und Allgemeiner Krankheiten	492
Ocular Injuries in Children	
Ocular Leprosy	50

	PAGE.
Orthoform in Quinsy	240
Psychic Disturbances Involving the Eye	366
Pathogenic Action of Powdered Dried Tonsil of the Calf.....	145
Retinal Rods and Color Blindness	239
Spinal Concussion for Asthma	106
Submucous Resection Cauterization in Laryngological Tuberculosis	49
Suppurative Sphenoiditis (Attenuated Types) in Relation to Post-Nasal Ca- tarrh, Asthma and Headache, with Mental Daze	193
Symptomatic Value of Corkscrew Vessels of the Retina	106
Tonsil, The	
Tuberculous Laryngitis	278
Use of Iodin in Ophthalmology	49

SOCIETIES.

American College of Surgeons	183, 274
Amer. Homœopathic Ophthal., Otol. and Laryngol. Society, Atlantic City, June, July, 1914	662
Amer. Hom. Ophthal., Otol. and Laryngol. Soc.	51, 227
Amer. Laryngol., Rhinol. and Otol. Society Meeting, Atlantic City, June, 1914.	490
Amer. Inst. Homœopathy	146, 229
Eye, Ear, Nose and Throat Society, Philadelphia.....	86, 182, 365, 542
Society Notes, Palen	620

BOOK REVIEWS.

Anatomy and Physiology, A Text Book for Nurses, Little	195
Anatomy and Physiology of the Eye and Its Appendages, Croskey	324
Anoci-Association, Crile	428
Development and Anatomy of the Nasal Accessory Sinuses in Man, Davis...	244
Diseases of the Kidneys and Nervous System, Blackwood	107
Diseases of the Labyrinth	371
Diseases of the Nose and Throat, Wright	551
Diseases of the Nose, Throat and Ear, Ballenger	427
Disturbances of the Visual Functions, Lehman	242
Elementary Dermatology, Bernstein	52
Elements of Bandaging, and the Treatment of Fractures and Dislocations, Rankin	242
Elements of Homœopathic Theory, Practice. Materia Medica, Dosage and Pharmacy, Boericke and Anshutz	195
Five Senses, The, Swedenborg	322
Guide to the Microscopic Examination of the Eye, Greeff	281
History of Laryngology and Rhinology, Wright	282
Interpretation of Dreams, Freud	108
Leaders in Homœopathic Therapeutics, Nash	147
Homœopathic Pharmacopœia of the U. S., 3d Ed.	283
Manual of Diseases of the Eye, May	492

	PAGE.
Manual of Diseases of the Nose, Throat and Ear, Gleason	550
Manual of Diseases of the Nose and Throat, Coakley	427
Medical Directory of N. Y., N. J. and Conn., 1913	51
Message of Health, Markham	324
Ophthalmic Surgery, Beard	245
Organon of the Rational Art of Healing, Hahnemann	147
Practical Homœopathic Therapeutics, Dewey	550
Public Health Bulletin	553
Swedenborg's (Emanuel) Investigations in Natural Sciences, etc.	280

MISCELLANEOUS, NOTES, ETC.

Announcement, Special Anesthesia Supplement	479
Adenoids and Tonsils	312
A Potency Problem	35
A Study of the Eye-grounds in Psychoses	354
Asthma in Children	541
Books as Infection Carriers	478
Complications in Tonsillectomy	70
Corrections	54, 431
Ductless Gland Extracts	525
Heredity in Myopia	546
Labyrinth Tonus	258
Notes	85
Ocular Injuries in Children	25
Snaring Adenoids Through the Nose	258
Some Medical Concessions	304
Standards of Measurement of Radioactivity	394



J. IVIMEY DOWLING, M. D., O. et A. Chir.,
Albany, N. Y.

President, 1913-1914, of the American Homœopathic Ophthalmological, Otological and
Laryngological Society.

The Journal of Ophthalmology, Otology and Laryngology

Vol. XX

Lancaster, Pa., and New York, January, 1914

No. 1

EDITORIAL.

THE SENSE OF SMELL.

OWING partly to the mistaken idea that this is a degenerating sense, but principally because it is difficult to think in terms of smell we have not studied it seriously until recently; it is possible today to read all the literature of investigations of the sense of smell in one week.

The olfactory tract, the distribution of the olfactory nerve, is about the size of a finger nail on the superior turbinated body, the corresponding part of the septum and the attic between; it is pigmented and its columnar epithelial cells have sensory hairs, different from the ciliated epithelium of the rest of the nasal mucosa. It is out of the way of the main stream of respiration, is reached by diffusion currents and more readily in expiration.

Smell serves sometimes as warning, sometimes as an appetizer, and contributes largely to the sense of taste; strictly we can distinguish by taste only sweet, sour, salt and bitter.

Only volatilizable substances and gases can give rise to the sensation of smell; this they do by actual contact of minute particles. Musk does actually lose weight by this emanation.

From the point of view of evolution, "we owe," says Professor E. B. Titchenor, "all that we are as intellectual beings to the sense of smell; the cerebral cortex, first encountered in reptiles, being simply an extension of the smell organ."

Smell can not justly be considered as a deteriorating sense because: (1) less mechanical energy is necessary to excite this than any other of our senses; (2) our capacity to discriminate degrees in smell is as fine as for noise; (3) the nose furnishes a greater number of sensations than all the other organs of the body taken together.

Analogous to the spectrum, there are nine fundamental groups of odors:

.

- I. Ethereal odors—as wines, fruits, etc.
- II. Aromatic—*e. g.*, spices;
- III. Fragrant—flowers;
- IV. Ambrosial—musky odors, sandal wood;
- V. Alliaceous—onion, dried fish, india-rubber, chlorine;
- VI. Empyreumatic—as if burned, “been in the fire:” creosote, tar, smoke;
- VII. Hircine or rank—sweat, old cheese;
- VIII. Virulent—opium, bed-bug;
- IX. Nauseous—decay, carrion, feces.

Odors may be compensated—orris root for bad breath, or killed—as Peruvian bark kills the odor of iodoform and phenol does that of gangrene.

Smell has limitations: to land animals, and to the ground; it is very doubtful that birds have any sense of smell—except possibly buzzards—and odors seem to cling to the ground, are more readily perceived close to the ground, say about one or two feet from it.

We do not know any reason why the sense of smell may not be cultivated; tea tasters and others who make a business of discriminating odors seem to develop this sense more perfectly by attention and practice.

As the pineal gland was originally an eye (biologically) so the organ of Jacobson is a rudiment of a smell organ in some lower animals; in man this is a short epithelial canal in the septal mucous membrane near the anterior palatine canal with an entrance not more than a millimeter in diameter.

Loss of smell may be due to distortion, swelling or discharge in the nose preventing access to the olfactory area, or it may be consequent upon tissue change in the mucous membrane of the attic, in the nerve endings, the olfactory bulb or the brain.

Hyperosmia—oversensitiveness or exaggerated perception of odors—may be due to an irritation of the olfactory lobes, to hysteria, neurasthenia, hypochondria, female sexual disorders, or to lowered nerve force in wasting diseases.

Parosmia, imaginary odors, may come from attic rhinitis overstimulating the nerve endings, but usually to lesion of the olfactory brain center, although it sometimes occurs in hysteria, hypochondria, epilepsy, insanity and syphilis.

It is generally believed that the chief cortical centers for the primary sensations of smell lie in the hippocampal lobe and especially in the uncinate gyrus.

PRESIDENT, J. I. DOWLING, M. D., O. ET A. CHIR.

THE Dowling family, of Albany, N. Y., represented by the subject of this sketch, is of English origin and through maternal lines connected with the very earliest New England families, including Francis Cooke and Mary (Chilton) Winslow, who were passengers on the Mayflower in 1620.

Dr. Joseph Ivimey Dowling, son of Joseph Ivimey and Mary Jane (Sheppard) Dowling, was born in Newark (Woodside), N. J., December, 1872. He attended private and public schools in Brooklyn and Philadelphia, and the high school in the latter city, then in 1892 entered the Philadelphia Medico-Chirurgical College where the freshman faculty prize was awarded to him. In 1893 he entered the New York Homœopathic Medical College and Flower Hospital from which he was graduated M. D. in 1895. Three years later (1898) he received the degree of Oculi et Auris Chirurgus from the college of the N. Y. Ophthalmic Hospital.

During his senior year he was an editor (Department of Practice) of *The Chironian*. In '94-5 was Resident Surgeon, Flower Hospital; '95-6, Resident Physician at Five Points House of Industry; '96-'98, Medical Inspector N. Y. City Health Department; '98-9, Resident Surgeon N. Y. Ophthalmic Hospital.

He then opened an office in Albany, limiting his practice to the eye, ear, nose and throat, where he affiliated himself with the Albany Homœopathic Hospital (at first taking these clinics in its dispensary) and has built up a fine reputation and a large and successful practice.

Dr. Dowling married, November 6, 1901, Elizabeth Marshall Seaverns (b. July 27, 1878) and has two children—Frank Seaverns, born at 223 State St., Albany, October 9, 1902, and Elizabeth Thayer, born September 26, 1909.

In the summer of 1906 he attended the clinics of Fuchs and Politzer in Vienna.

The following list of organizations with which Dr. Dowling has been and is connected will give some idea of his activities:

President (and ex-secretary) American Homœopathic Ophthalmological, Otological and Laryngological Society; member since 1897 American Institute of Homœopathy; since 1900 a member (vice-

president in 1909) of N. Y. State Homœopathic Medical Society; member Academy of Ophthalmology and Otolaryngology; ex-prest. Albany County Homœopathic Medical Society; ex-prest. Eastern N. Y. Auxiliary of the N. Y. Hom. Med. Col. and Fl. H.; member Alpha chapter of Alpha Sigma; associate member Dunham Club (New York); ex-attending specialist Academy of the Sacred Heart, Kenwood, Albany, and of the Dominican Convent, Albany. He is also member of: Mayflower Descendants; Sons of the Revolution, S. N. Y.; Albany Historical and Art Society; Albany Chamber of Commerce; Fort Orange Club; Country Club; University Club.

His method of "Argyrol Tamponage" diagnosis of purulent affections of the nasal passages has given him renown with all rhinologists of the country and across the seas.

He has contributed to the: JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY AND LARYNGOLOGY, *Ophthalmology*, *Homœopathic Eye, Ear and Throat Journal*, *North American Journal of Homœopathy*, *Medical Times*, and *Medicine*.

Has written the following concerning his original method of diagnosing and draining the nasal accessory sinuses: Nasal tamponades; Relief of glaucoma simplex by means of intranasal treatment and surgery; Depletion by nasal tamponades the rational treatment of subacute rhinitis; Retrobulbar neuritis caused by sphenoid abscess.

SOME EFFECTS OF ACCOMMODATION ON MUSCULAR CO-ORDINATION.

GEO. A. SUFFA, M. D., O. ET A. CHIR.

Boston, Mass.

THE purpose of this paper is to show that acquired concomitant esotropia is due primarily to a peculiar susceptibility of certain internal recti muscles when excited by near vision; that the condition is the ultimate result of a developmental process beginning with excessive activity of the hypersensitive interni and to a less extent of all the external eye muscles receiving their nerve supply from the third or oculomotor nerves, passing on to esophoria and eventually becoming esotropia; that esotropia is not necessarily dependent upon hyperopia, anisometropia, defective vision from any cause, malformations of the orbits, faulty attachment of the muscles, large angle alpha, disturbed relation between the visual lines and the apex of the cornea, narrow pupillary distance, defective brain centers governing muscle movements, fusion or excessive accommodation, but that any one or more of these elements may furnish the stimulus which starts up the accommodation as the exciting factor and initiates the excessive activities of the peculiarly susceptible interni; and that esotropia is preventable if taken in time, or if not too firmly established is curable in a manner to be presented.

When F. C. Donders proclaimed that "Strabismus convergens almost always depends upon hyperopia" he also emphasized the fact that the above mentioned contributing elements had an important bearing thereon.

Since then, many writers upon ophthalmology, especially those making a special study of the ocular muscles, have singled out one or more of these conditions and advanced them as of more causative importance than hyperopia, but finally admit some other explanation is necessary to cover all cases of esotropia. After scanning the literature of the subject, one is forced to the conclusion that the etiology of this muscular anomaly is not satisfactorily explained (unless we admit, as the writer does not, that there is no common cause).

That there is something which will adequately explain all cases

whether emmetropic, hyperopic or myopic, would seem to be a natural and reasonable supposition. The reason that investigators, although at times coming very near to it, have failed to grasp the real cause, is because they have not approached the subject from the proper angle, and have been too easily satisfied with the explanation promised by the working out of certain contributing elements in a large number of cases or because they have accepted secondary conditions as a cause.

The fact that esotropia appears between the ages of two and eight, when ocular developmental processes are normally most active, that it is intermittently manifest at the near point at first, and is aggravated by fatigue, temper, etc., more or less gradually and progressively becoming manifest at all distances, plainly points toward the developmental nature of the condition.

Also the fact that convex spheres of sufficient strength to remove all accommodative effort, will correct as much as thirty degrees of esotropia at the near point, the esotropia immediately returning upon their removal, proves to a certainty that this portion of the act of near vision stimulates the peculiarly susceptible internal recti muscles excessively and shows the developmental nature of the condition. The inferior and superior recti also participate in this action, more than is generally supposed.

In order to more readily comprehend the co-ordinate action of the extra ocular muscles in the act of near vision, I shall divide my discussion of them into two sections, one mechanical, the other functional. The mechanical section, by diagrams, shows the formation of the lateral orbital boundaries and the anatomical arrangement of the extra ocular muscles therein, thus making it easy to observe their mechanical possibilities, and enabling the reader to better understand the problems of the functional section which follows.

MECHANICAL SECTION.

Fig. 1 is a tracing of an actual skull, cut horizontally through the center of the orbits. A A', the temporal boundaries diverge 45° from the median plane. I the nasal boundaries are parallel with the median plane. B B', the orbital axes diverge 25° . The internal recti muscles at C have about $2/3$ as much mechanical movement or freedom of action as the external recti muscles D D' have, showing at least an apparent comparative mechanical handicap.

E shows the line of traction of the inferior and superior recti muscles, their plane of action lying inside of the center of rotation of the eyes.

F F' show the crank or lever action of the inferior and superior recti muscles. I ask you to note particularly this leverage action of these two muscles as demonstrated in this figure and the figures to follow, as this

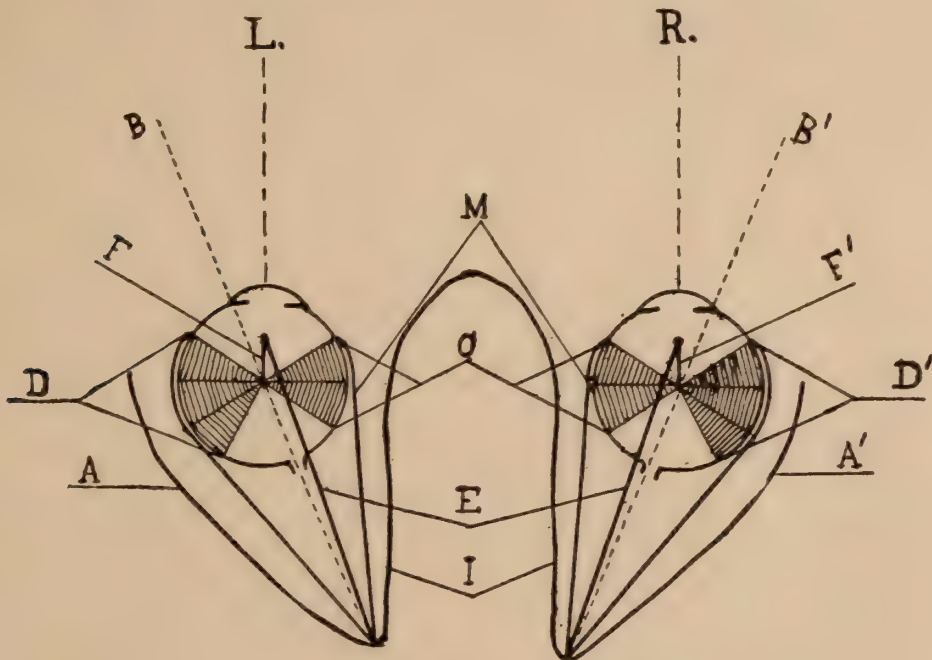


Fig 1.

singular anatomical arrangement makes them not only immediately available in turning the eyes inward, but gives them increasing power as version progresses, thus making it mechanically possible for them

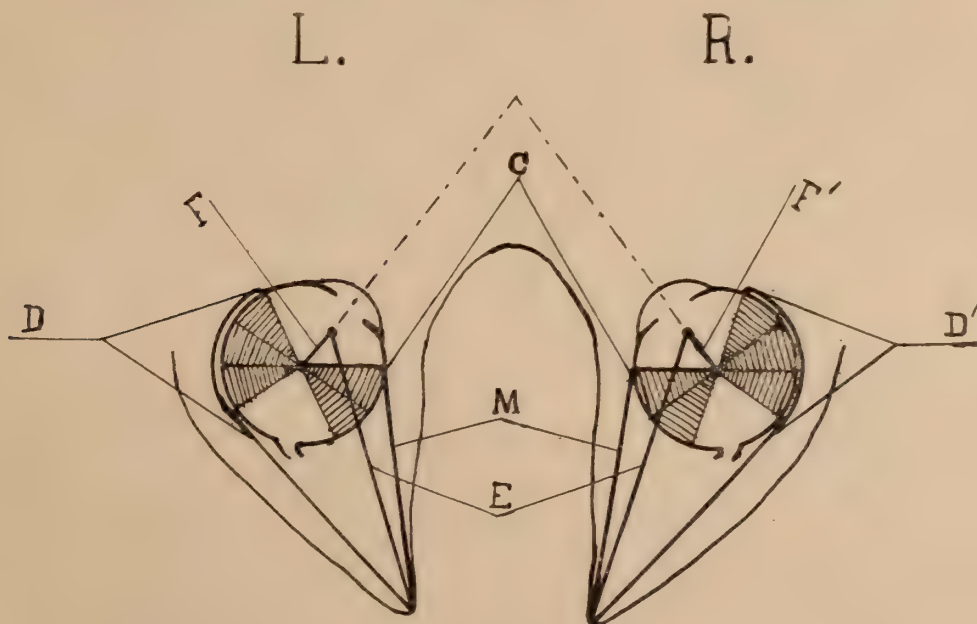


Fig 2.

to augment the waning power of the interni and to continue inward version of the eyes when the interni can no longer act in this direction.

Also note at M in Figures 1 and 2, that up to 7 millimeters of convergence (more than is ordinarily used in near vision), the interni

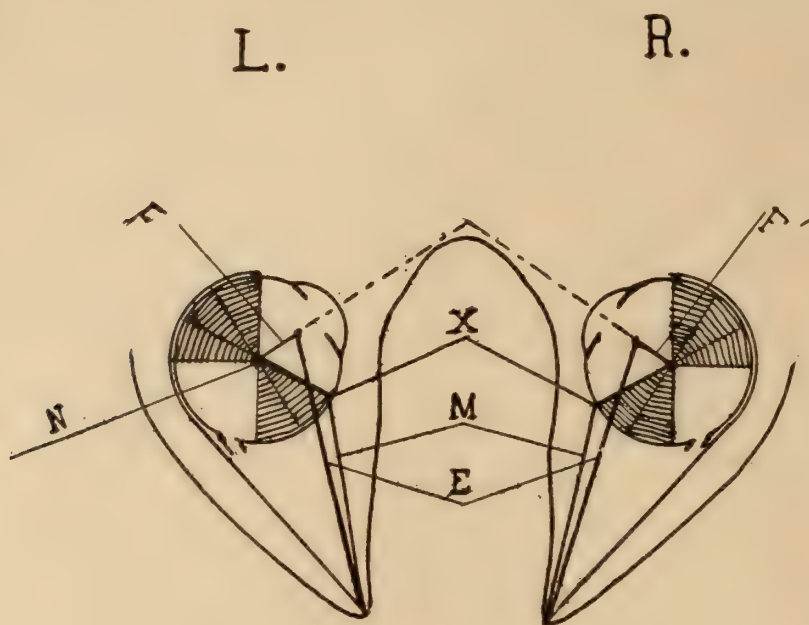


Fig 3.

maintain their contact arcs and that their leverage is at its maximum and remains constant to this point, Fig. 2 c. Beyond this point, however, their contact arcs are lost and their leverage decreases.

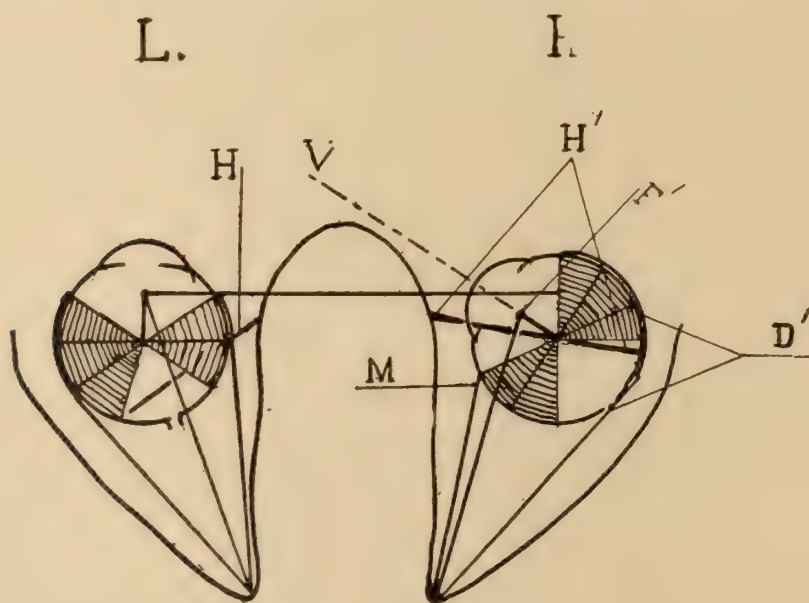


Fig 4

At M and E the plane of action of the internal rectus and inferior and superior recti muscles coincide; the internal rectus muscle having nearly lost its leverage and used up practically all its power of inward version, while the inferior and superior recti muscles, not having reached their maximum leverage, are still mechanically capable of performing a large amount of inward version.

These figures show among other interesting features that the mechanical handicap of the interni as compared with the externi is rather apparent than real, their mechanical possibilities being adequate, with the aid of the inferior and superior recti, to more than meet all demands made upon them at the ordinary near point. They also show that the inferior and superior recti muscles have with very little contractile effort a powerful influence in turning the eyeballs inward through their leverage, due to a favorable mechanical arrangement; the leverage increasing the greater the version, so that they are still able to continue inward version when the interni have exhausted their mechanical possibilities in this direction. That the principal action of the inferior oblique through the progressive change of the position of the eyeball in extreme inward version, is changed from outward torsion to upward version is also demonstrated.

That the position of the attachment of the inferior and superior recti muscles can have an important bearing in the early developmental process of esotropia, and that a variation of the attachment of the inferior and superior obliques can have a bearing on the torsional effects. They also positively show that the position of the attachment of the internal recti muscle can have no bearing in the early developmental process, but can only affect the degree of esotropia, as the force of the interni (or of any ocular muscle in its principal action) is not exerted at its attachment but where it leaves the eyeball. It also clearly demonstrates that the center of rotation must be the center of the radius of the globe, and that it cannot be excentrically placed.

That all these mechanical characteristics of the orbits and their contents have a most important bearing on esotropia and its complications will be seen when we take up the functional part of our problem in all its connections.

Having a clear understanding of the mechanical action of the external eye muscles in the act of near vision and as applied to esotropia, we are ready to investigate the functional act of convergence

in all its connections, but while doing so let us keep clearly in our mind's eye, as seen in the mechanical division of our problem, that the inferior and superior recti muscles not only act as powerful convergers in conjunction with the interni, but that through similar innervation they become inseparably connected with them, as do also the inferior obliques.

FUNCTIONAL SECTION.

For the sake of clearness, we will suppose an imaginary or hypothetical case which is structurally and functionally normal in every way excepting that it has peculiarly susceptible internal recti muscles, and consider what takes place under certain conditions. In such a case the eyes when fixed at infinity would make no effort either of accommodation or convergence, the visual axes being parallel, but when fixed at the near point 13" an accommodative effort of three diopters would naturally result, which, under normal conditions, would be associated with an equal converging impulse to the same point, namely, 13" or three meter angles. On account, however, of the peculiar susceptibility of the interni muscles, an excessive attempt at convergence is made, tending to fix the eyes at 10" or four meter angles. This attempt at excessive convergence would be successful if it were not for the opposition of the external recti which keep the visual lines fixed at 13" to correspond with the point on which accommodation is focussed.

Under these conditions it is evident that repeatedly and continuously looking at the 13" point would more or less rapidly increase the activity of the interni, producing a tendency or desire to converge more and more. The externi, meanwhile, by their opposition react upon the interni and still further increase their strength and activity. Thus esophoria develops and remains esophoria as long as the externi are capable of restraining the overstrong interni. When, however, the externi are at length unable to successfully oppose the excessive impulse of the overlapping interni, esotropia becomes manifest, at first at the near point only and intermittent in character. The process does not end here for sooner or later the esotropia will begin to show during distant vision, at first intermittently, but eventually becoming permanent at all points, when the excessive activity of the interni, as well as their process of continuous development, is mainly assumed by the internus of the deviating eye. Structural changes which are now

beginning to take place are again mainly confined to the internal rectus of the deviating eye. The external rectus of the deviating eye has by this time given up the unequal struggle and is becoming stretched and attenuated.

So far in the consideration of our hypothetical case, we have proceeded as if the lateral muscles were the only ones involved in the act of convergence, but in actual convergence, as performed during near work all the extra eye muscles are not only brought into activity but all receiving oculomotor innervation are affected in a special way. The action of all the external eye muscles in the act of convergence is a multiple or mixed one, for at times they oppose each other, having the same innervation. The inferior recti act more powerfully in inward version than in downward version and also produce outward torsion of the eyeballs, while the superior obliques in addition to the active part they take in turning the eyeball downward also produce inward torsion, thus opposing the outward torsion of the inferior obliques, inferior recti and other muscles which have this effect in a lesser degree.

The superior recti muscles are also actively engaged in inward version, or convergence, but under contraction, on account of their position and plane of action, they would also act in upward version, and inward torsion, in direct opposition to the inferior recti muscles, making, as will be seen, a very peculiar action, first and most powerfully and positively acting in inward version, or convergence, in conjunction with the inferior recti and the interni; secondly, operating in active inward torsion in conjunction with the superior oblique muscles and in opposition to the inferior recti, internal recti, and inferior obliques, although acting powerfully with them in inward version or convergence; thirdly, operating in passive upward version, thereby becoming steadiers of the globes.

The external recti muscles have two passive actions of practically equal importance. (1) resistance to overconvergence, and (2) steadying the eyes during fixation in convergence, their steadying effect increasing the greater the convergence (see Fig. 5 D'). They are also secondarily engaged in downward version and outward torsion, when the visual axis lies below the horizontal plane.

The inferior obliques also have a multiple action in convergence, one active and two passive. Action is outward torsion, most pronounced up to the ordinary reading distance. The passive action is upward

version—becoming active in extreme inward version. Both of these actions are in direct opposition to the action of the superior obliques, which are engaged in downward version and in inward torsion. In their second passive action, outward version, they become effective steadiers of the eye in conjunction with the superior obliques and external recti muscles.

In esotropia, the positive action of this muscle (the inferior oblique) in the deviating eye undergoes a complete transformation; its torsional action diminishing as inward version increases. Finally, its principal action is upward version in extreme esotropia. See Figs. 4 and 5 H'.

The action of these muscles, the inferior obliques, in convergence, especially in esotropia, is extremely complicated.

Receiving their innervation from the same source, the third or oculomotor nerves, that the other converging muscles do, keeps these muscles constantly active during this act. Yet under this activity, which calls for contraction, they are actually put on the stretch on account of the downward position of the eyes, for the inward turning of the eyes during this act does not affect their length.

A change of the principal action, outward torsion to upward version, as the plain of action of this muscle approaches the visual line, is another peculiarity. These peculiar double actions and changes of these muscles fully account for both the increased plus torsion and the hyper-tropia found in esotropia.

The interni in convergence also have a multiple positive action. Their first and most important effect is inward version or convergence, intimately associated or united with the inferior and superior recti muscles.

Their second active effect is downward version in company with the inferior recti and the superior oblique muscles, and possibly, also, with the external recti muscles.

Their third active effect is outward torsion in conjunction with the inferior recti, the inferior obliques and possibly to a slight degree with the externi.

The main action of the superior oblique muscles during convergence is inward, aided by only one muscle—the superior rectus in each eye. This may be the reason why this muscle is honored in having a separate cranial nerve for its individual use, as it must exert the main force to overcome the outward torsion produced by the remaining four muscles, namely, the inferior oblique, internal, inferior and external recti muscles.

The superior obliques also act in downward version progressively opposing the upward version of the inferior obliques as inward version increases. Their passive action is outward version in conjunction with the passive action of the inferior obliques and external recti muscles, thereby steadying the globes in the act of near vision.

The superior recti muscles although receiving their innervation from the third or oculomotor nerves in conjunction with the interni and inferior recti muscles and while acting positively, powerfully and harmoniously with them in inward version or convergence, oppose downward version and outward torsion in direct opposition to these muscles.

When esophoria, which as we have seen always precedes esotropia, is developing, the muscles supplied by the third or oculomotor nerves begin to develop through excessive activity, the interni first and foremost, probably closely followed by the inferior and superior recti and the inferior obliques, which increase their torsion.

When esotropia, in contrast to esophoria, is manifest, the activity of the muscles receiving oculomotor innervation is mainly transferred to the esotropic eye. The true opposing muscles, the external rectus and the superior oblique having given up the struggle, the active group, the internal rectus, the inferior rectus, the superior rectus, and the inferior oblique are left free and unopposed, the internal, inferior and superior recti acting together in abnormal inward version, while the inferior oblique is beginning its work of upward version and is losing power in outward torsion.

The internal rectus is now taking on structural changes and shortening in direct proportion to its susceptibility and the degree of stimulus that is furnished by the contributing element through the exciting factor, governed also by the length of time it is allowed to proceed. The internal rectus and the inferior rectus, through their anatomical arrangement and aided by the inferior oblique muscle are now effectively producing outward torsion. When in esotropia the inward deviation is enough so that the visual axis approaches the plane of action of the inferior oblique, its torsional action practically ceases, and its main action becomes upward version.

The superior rectus muscle by virtue of its anatomical position and innervation from the third nerve retains its triple action: first, as previously stated, in inward version with the internal rectus and inferior rectus; second, in upward version in direct opposition to these muscles but in conjunction with the inferior oblique; and third, in inward ver-

sion in direct opposition to the internal rectus, the inferior rectus and the inferior oblique. In other words, it struggles alone in inward torsion, as soon as esotropia is manifest. That its struggles are often ineffectual, is evident from the increased plus torsion found in esotropia.

As soon as the visual axis coincides with the plane of action of the inferior oblique muscle, as previously stated, and as is approximately shown in Figs. 4 and 5, the main effect of this muscle is upward version aided by the superior rectus but in opposition to the inferior rectus and the internal rectus. Thus, although the opposing forces are numerically equal, on account of the favorable position of the inferior oblique, it has greater power and is more effective in upward version and in all probability is the muscle that produces the hypertropia found in esotropia. It is also probable that the hypertropia develops after the esotropia is established because the principal action of the inferior oblique does not become upward version until the esotropia is of considerable degree. In cases II. and III. this was absolutely true. (See Fig. 12.)

The idea advanced by some writers that torsional movements of the eyes in convergence are in some way useful or necessary in clear vision, is erroneous. Any torsional movement in either eye is bound to interfere with clear vision, and is abnormal just as esotropia and hypertropia are abnormal. An easy way to demonstrate that outward torsion is abnormal and does not take place without causing indistinct and distorted vision and finally diplopia* is by gradually bringing a black pencil close to the nose of a patient with weak convergence. The weaker the convergence, the farther away the statement will be made that the pencil widens or blurs, a slightly nearer position of the pencil causes it to spread at the top, forming an irregular Y or V. Following the pencil with a white card helps the patient to recognize the spreading of the pencil. The false image, tilting outward, shows a beginning crossed diplopia, or outward torsion of the eye that is giving up convergence. Bringing the pencil still nearer will cause it to separate and full crossed diplopia will exist, the deviating eye relatively diverging. Both the true and the false image may diverge at the top, but the one seen with the deviating eye, the false image, will tilt most.

Case 1.—J. T., age 2 years, seen first April 8, 1902. This case had

*So far no case has shown inward torsion with this test.

a high degree of convergent strabismus, the inner edge of the cornea of the left eye hiding behind the inner canthus when looking straight ahead with the other eye.

Ophthalmic examination was made with difficulty and lenses given as follows: o. u. $+ 1.50$ s.

Feb. 19, 1903, when he was next seen, the left eye was still at the inner canthus. R. o. u. $+ 3.50$ s.

May 22, 1906, the conditions were the same and the correcting lenses were reduced to $+ 2$. o. s.

Dec. 6, 1910, he showed improvement in the distant esotropia, the left eye showing $\frac{1}{8}$ inch of sclera at inner angle. In convergence, the left eye begins to move outward when fixing point is seven inches from nose.

Dec. 6, 1910. R. R. $20/30, + 1. \odot + 1$ c. ax. $90^\circ = 20/20$.

L. $2/200, + 3 = +$.

Dec. 20, 1910, esophoria† 2Δ when fixing at 20 ft. and eyes look parallel.

Esotropia 20Δ when fixing at near point, but with $+ 3.00$ s. added to the distant glass *there is none*.

R. $+ 3.00$ s. given as trial glass to be hooked over the distance correction at the near point.

March 21, 1911, left eye shows 5 mm. of near convergence with distance prescription.

May 31, 1913. R. o. d. $+ 0.75 \odot + 1.50$ c. axis $100^\circ = 20/20$ 2 letters. O. s. $+ 2.50 = 3/200$.

$+ 3$. bifocal discs were added. Without the distant formula esotropia existed. (See Fig. 6.)

With the distant formula orthophoria existed in distant vision (see Fig. 7), but in near vision 20Δ of esotropia remained (see Fig. 8). With the bifocal or reading formula, orthophoria was present at all points (see Fig. 9.).

Case 2.—H. K., age three years. First seen October 4, 1910, when mother reported that she had noticed that the left eye occasionally turned in. Examination showed slight deviation inward of the left eye in distant vision, and more near. A trial pair of $+ 1.00$ spheres was given her.

†Prism diopters Δ are meant when either phoria or tropia is measured.



Jan. 20, 1911, at the second visit, the exclusion card test showed eight degrees of esophoria in distant vision and twenty degrees of esotropia at the near point. The + 1.00 spheres were continued.

June 21, 1911, the mother reported that the eye rarely turns in and + 1.50 spheres were given.

Oct. 24, 1911, card test showed three degrees of esophoria in distant vision and fifteen degrees of esotropia near, at times. + 2. spheres were given.

March 30, 1912, gave + 2.50 spheres.

July 2, 1912, there was a decided change for the worse, the test showing twenty degrees of esotropia in distant vision with the correcting lenses and forty degrees near. Bifocal glasses were given as follows: R. + 2.75 s. o. u. with + 2.50 s. wafers added for near vision.

Nov. 20, 1912, she showed fifteen degrees of esotropia in distant vision and forty degrees near.

May 13, 1913, the mother says the eyes have been straight for last few weeks. The card test showed the visual lines parallel in distant vision. At the near point, an interesting thing has taken place. For the past few days she had been without the right + 2.50 wafer under which conditions she showed left esotropia near of 20Δ to 30Δ , as well as left *hypertropia*, but no sooner was the wafer replaced than the visual lines became parallel.

These cases demonstrate the influence of the accommodative effort in near vision on muscular co-ordination perfectly. The correction of the hyperopia in the usual way hardly served to arrest the developing esotropia even temporarily, much less control it, but the removal of the necessity for accommodation in near vision by the employment of the bifocal lenses very soon established perfect ocular equilibrium.

In case 1, after distant esotropia had been removed by correcting the hyperopia normal accommodation in the act of near vision was the remaining factor that kept up the activity of the internal recti and possibly also of the inferior and superior recti. It was positively the exciting factor to set into activity the inferior oblique in case 2, causing the deviating eye to turn upward as soon as the inward movement had ceased.

Case 3, seen first on April 2, 1913, showing an esotropia of 40Δ distant vision and 50Δ near.

May 13, 1913, R. R. 20/15 + 1, \odot + .25 ax. 90° +.

L. 8/200 + 1, \odot + 4 ax. 105° = + 2.50 o. u. added bifocal.

These cases were not selected for demonstration purposes but were cases which came in while this paper was in preparation.

The entire removal of the esophoria at all points in cases 1 and 2, with plus spheres over the lenses correcting the hyperopia thus removing all effort of accommodation at the near point and its im-



Fig 10



Fig 11

mediate return when near vision was attempted without their use, is positive proof that the normal accommodative impulse was the exciting factor which perpetrated the high degree of esotropia at the near point in both cases and the smaller amount of distant esotropia in case 1.

That the element hyperopia through excessive accommodation at the near point, caused it (the near accommodation) to become the exciting factor that started the susceptible interni into activity, finally developing esotropia in cases 1 and 2, affords certainly a logical conclusion; especially so in view of the fact that the normal act of near accommodation retained the near esotropia after the distant esotropia had been removed by the lenses correcting the hyperopia, and that the

near esotropia was also removed when the accommodative impulse was eliminated by the use of plus spheres.

The functional development of the ocular muscles in a normal case should result in the establishment of a reciprocal equilibrium among these muscles and it is only necessary, remembering their innervation, to study the diagrams which illustrate this paper to understand how perfectly their arrangement is adapted to the production and maintenance of this ocular equilibrium in all positions.



It seems reasonable to assume that the central innervation centers are also properly arranged so that normally there would be a sufficient impulse generated and sent to the various muscles to meet the demands made upon them during the period when esotropia is usually developed and certainly so far as my investigations of this condition have gone, I have failed to find any evidence that defect of the central innervation has even been a factor in its production, far less the actual cause. The fact that esophoria and esotropia tend to lessen after the patient passes the developmental period is against the assumption that the defect is central, as is also the method of its relief and cure.

In our hypothetical case an abnormal element existed, for a normal

accommodative impulse in the act of near vision excited the susceptible internal recti muscles to undue activity, upsetting the muscular equilibrium and finally developing esotropia.

It may however well be that the excessive amount of accommodation required in the cases cited in near vision and probably to a less extent in distant vision during the time that the uncorrected hyperopia existed, was the element which started the exciting factor—accommodation—and set into activity the “peculiarly susceptible” interni, but it is not evident that any of the other contributing elements mentioned by various writers had any bearing either on the exciting factor, accommodation, or the actual condition, esotropia, otherwise the esotropia would not have been overcome by removing the element hyperopia and this factor—the necessity for an accommodative impulse. Whether the other elements in some cases alone or in various combinations may or may not be what stimulate the exciting factor—accommodation—to start the excessively susceptible interni into activity, I am not prepared to say at present, but that they all together are of much less importance than hyperopia is my firm belief, based not only on the fact that so far I have seen no case of concomitant esotropia that did not have some form of hyperopia, but also because the more I look into this anomaly from the anatomical, innervational and functional standpoint, the more do these elements eliminate themselves.

Thus we see that Donders came very close to discovering the cause of esotropia, for hyperopia certainly is and will remain the principal element that initiates the movement by stimulating the exciting factor, accommodation, and starting that process of development in the “peculiarly susceptible” internal recti muscles which finally results in esotropia.

Before undertaking the treatment of esotropia, the amount of muscular unbalance should be carefully estimated, preferably by the occlusion card test in distant and near vision, with and without lenses correcting the refractive error. It is also helpful in making up one's mind as to the muscles most at fault to note the action of the eyes in extreme right, left, upward and downward version and particularly the behavior of the deviating eye in extreme convergence. The Stevens tropometer, while far from being an infallible guide for indicating the degree and kinds of muscular inco-ordination, should be consulted as its readings are sometimes valuable as confirmatory evidence.

The data thus acquired, together with knowledge of the refractive condition, are indispensable to the intelligent handling of the problems involved in the treatment of these cases.

The test or tests for determining the refractive error should be made after a solution of sulphate of atropin of four grains to the ounce of distilled water has been instilled into the eyes, one drop twice or three times a day for two days.

The lenses correcting the *total* refractive error should be put on before the cycloplegic effect has passed and worn for about a month. If at the end of this time a decided improvement has taken place in the esotropia in both distant and near vision, the correcting lenses may be continued for a longer time, but if improvement ceases and esotropia either in distant vision or at the near point persists, plus bifocal wafers of sufficient strength to abolish all accommodative effort at the near point should be added to the distant correction. Plus 2.50 or plus 3 spheres are usually required, but care should be exercised not to bring the reading point nearer than is comfortable for the patient and also it is important that the wafers should be large enough and so adjusted that the patient cannot easily look through the distance lenses while fixing at the near point.

The results of this treatment are as startling as the method is simple. It is not unusual to see both the distant and near esotropia disappear as soon as the lenses are put on and immediately reappear on their removal, as strikingly shown in case II, which had accidentally lost the bifocal wafer. Other cases lose the esotropia gradually until equilibrium is established. In some cases it has been found necessary to reduce the strength of the wafer as exophoria (in one case exotropia) developed at the near point, indicating that finally, when the developmental period has passed, the normal accommodative impulse is required to maintain muscular equilibrium.

No case has so far failed to respond to this treatment and I hope soon to give a detailed report of a series of cases showing that esotropia can be corrected by this method and that the final step has been taken that will relegate tenotomy of the internus to oblivion where it belongs and make tucking of the externus a dernier resort in extreme cases of long standing.

The writer firmly believes that esotropia will rarely be seen when this method is generally practiced by all ophthalmologists and is suf-

ficiently understood by the laity so that it may be applied when the esotropia first appears or is in the transition stage, intermittent in character and manifest at the near point only.

Finally, I desire to again enter my protest against tenotomy of the internal rectus and to emphasize the importance of thoroughly trying out this method in all cases of esotropia of however long standing before resorting to operative measures, even upon the external rectus of the deviating eye.

220 Clarendon Street.

DISCUSSION.

R. W. HOMAN, Webster City, Iowa: I wish to compliment Dr. Suffa on this scholarly paper. The early nonsurgical treatment of these cases is of prime importance and this paper gives us some very clear ideas as to both cause and treatment. It is an easy matter in considering this subject to become somewhat confused as to the etiology in view of the fact that there are so many causative factors that *may* affect the case. We must avoid falling into the habit of thinking that these cases of esotropia are like Topsy, "jest growed," for there is a reason for every one of them. In my opinion the essayist gives us the correct working idea in the fewest words when he brings us to the conclusion that the great majority of the cases of esotropia are dependent upon three factors, viz., hyperopia, the early period of development, and "susceptible interni." In the term "susceptible interni" we have, I think, the key to the situation, the final causative factor in the case. Every one of us has seen many cases of hyperopia in children in whom there was no trace of esotropia. In these cases two factors were present, but the third, susceptibility, was absent. Therefore, there was no esotropia. I have examined the refraction of children of eight to ten years of age who had from three to six diopters of hyperopia and who had been in school three or four years and still had binocular vision. In this connection I will refer to one extreme case that I saw seven years ago. A boy who had, in both eyes, compound hyperopic astigmatism of plus 15.00 D. with plus 3.00 D axis 90 degrees, and still his eyes were perfectly straight.

Histologists tell us that in hyperopic eyes over-development of the circular fibers of the ciliary muscle is found, as a result of excessive activity and nervous stimulation. On account of the intimate relationship which exists between accommodation and convergence no doubt this condition also prevails with the adductors in susceptible cases, the nerve impulses probably being partially trophic as well as functional. This idea seems to be borne out by the fact that the great majority of these cases occur, as Dr. Suffa points out, between the ages of two and eight years, the period of most rapid development.

As to the treatment of these cases the early and complete correction

of the refractive error is the proper procedure, as stated by the author of the paper. This should be done just as soon as glasses can be kept on the child. Every day of delay is just that much time lost, for development is going on and the muscle will, in a few years, become shortened. The plan of using bifocals on these little fellows is a new idea to me, but I think I will try it on the next case coming to me where it seems proper. The problem, to me, would be when to remove the bifocal correction and whether to remove it all at once or a little at a time. If the full accommodative correction was worn for near vision much past the age of eleven or twelve years I would be afraid that the normal accommodation would be weakened.

The trend away from the surgical treatment of these cases is indeed gratifying. There are many cases, of course, in which surgery is necessary, but if these conditions can be prevented it leaves a pair of eyes in much better condition than they could be after a tenotomy.

EDGAR J. GEORGE: I arise to thank Dr. Suffa for this excellent paper: it is something new, something to study and something to think about. I do not feel capable of discussing it without more study and thought given to the subject than is now possible.

GEORGE W. MACKENZIE: I get up only because Dr. Suffa requested me to look over his paper and discuss it. Like Dr. George, I feel that it requires more study before one can be able to discuss it. It is a very masterly piece of work and yet, after it is all boiled down, it is a very simple matter, and one that should have been discovered long ago. So it is with all great discoveries; after they are made and explained to us, we wonder why it was not recognized long before.

The action of the eye muscles has been a subject of study and research for many years and at the present time we have several men who are active in this work, including our own member, Suffa. There seems to be considerable difference of opinion about the action of certain of the extrinsic muscles of the eye and this difference or disagreement is not unnatural, for each sees a little corner of the truth from his own viewpoint but is unable to get the view from another's standpoint or to see the subject as a whole. I think that Dr. Suffa has brought that fact out plainly.

It is quite possible, indeed it is logical and reasonable, that each one of the eye muscles has more than one action; furthermore, every eye movement is regulated by a co-ordinate action of at least two and often more eye muscles. This thought came to me as I heard the paper read and I was particularly struck with his demonstration of the inferior oblique muscle in extreme convergence where the pull seems to give an upward direction to the ball.

Dr. Suffa's ideas seem to me to be as well, if not better, proved as any that have been advanced and we have just as much right to accept his views as those of Stevens, Reber, Fuchs or Worth. There is nothing in the paper that I am going to criticise; I cannot, I am not competent to do so.

I would, however, like to ask the doctor in regard to the action of the inferior oblique when there is extreme convergence inward, you get some upward convergence; does that same upward convergence manifest itself in a normal individual in the right eye when they look to the left. There is not a muscle in the organism that works alone; every movement is the result of harmonious or reciprocal motions of many muscles or groups of muscles, and every muscle has its opponent. All are in a condition of tonus, even a normal individual looking at infinity puts his eye muscles into a state of some tension. Under an anæsthetic eyes will roll around in nonvisual directions, and in infants there are ataxic conditions due to the fact that their supranuclear neurons are nonmedulated; later the neurons become medulated and the ataxic condition ceases. Restrained, guided and directed movements are matters of education. Half of a man's education is in the ability to make exact co-ordinate movements. The Japanese put it that much of a man's education is in his fingers.

Ocular Injuries in Children.—The authors have collected 229 cases of injury in the 23,000 patients seen in about six years. This gives about one per cent. of injuries. In children under two years the accidents are mostly due to the children falling into the fire, to frying fat sputtered into the eyes and to falls. Between two or four years the accidents are mainly due to awkward movements and falls while holding knives, forks, etc., in the hand. Up to this age the accidents occur with about the same frequency in both sexes, but from this age on about three male children are injured for every female. This is due to the dangerous pastimes and the quarrels indulged in by boys, the plays with pocket-knives being especially dangerous. From the age of fifteen the accidents are the same as with adults.

While infection may take place as easily in a child as in an adult, the fact that hypopyon is rare after light corneal injuries is explained by the lack of lacrimal stenosis in children, and the absence of infecting material in the lacrimal sacs.

As to prognosis, the contused wounds are the worst, three out of six cases having been lost through panophthalmitis, the other three through iridocyclitis, and all leading to the removal or exenteration of the eye. Punctured wounds are nearly as bad, giving rise to panophthalmitis in one of five cases, three showing iridocyclitis, and one recovering. In eight cases of incised wounds there was one resulting in panophthalmitis, two in iridocyclitis, and five in recovery.

The treatment was the same as in adults.—*Arch. d'Ophthalm. Abs. in Hahn. Mo.*

AMYGDALOKELYPHY.*

FRANK E. MILLER, A. M., M. D.,

New York.

In tonsillectomy first examine the tonsil carefully for anomalies by pulling it out of its socket as far as possible with a properly constructed forcep and by observing the usual sites selected by nature for adhesion between tonsil and pillar; these are, first, about the supratonsillar fossa on either side; second, between this fossa and down at the juncture of the anterior and upper third, with two-thirds of the posterior pillar; third, in the anterior pillar at the end of its anterior and upper third; fourth, in the anterior and lower two-thirds of both pillars at these fulcrum points, or where the gravity of the pillar against unchanging tonsil creates usually tough adherent bands that resist the strongest pressure of the keenest scalpel. Right here, let me say, the majority of accidents occur; such a case I have in mind and mention in another part of this article. These are best divided with a Lellands curved knife, elevator, blunt scissors, broad knife or finger if soft, and a sausagelike enucleation will take place on adjusting the tonsillotome, without much pressure. I apply a modified McKenzie (with small, stiff, strong steel shank, oval, bevelled edge blade and fenestrum, with handle), to the opening between the pillars, pressing with all degrees of force that the case demands.

As the axis of the body of the tonsil differs in individual cases, the direction of the application of the McKenzie must change somewhat, but the general direction is:

Engage what you can of the base of the tonsil, force the oval fenestrum of tonsillotome directly upward and backward with handle grasped firmly in your right hand, your left hand pressing on guillotine bar with its forefinger directed against the protruding tonsil. Keep pressing and working tonsil through fenestrum until you feel and see that it is practically enucleated. Then holding instrument in place press with the blade quite forcibly with right thumb into the extruding tonsil, hold it there a few seconds, take a good look at it if you can, or a

*Amygalokelyphy, from Gk. *αμυγδαλη* —amugdale—(almond) the tonsil, and *κελυφειν*—keluphein—to husk off or shell out. Synonym = tonsillokelyphy.

good feel with your forefinger (for touch is a great thing to the frequent operator when lighting is poor or the ether makes it slimy and impossible). If O. K. send the blade home and often you will find a complete enucleation or a *splitting of the capsules*, even leaving a veritable parietal part of the tonsil's capsule in situ.*

A nonadherent submerged tonsil with its body filled with cheesy deposit of atrophic tonsillitis comes out often as a perfect specimen of tonsillar enucleation by the tonsillotomy described above, and once in a great while you will find an isolated circumscribed pus globule in the capsule of the tonsil at its most outward point, lying there in wait for some recurrent infection to poison and distress this whole area, even the entire body.

In most cases of subacute or repeated inflammatory attacks of tonsillitis due to infection, constitutional dyscrasia, reflex or sympathetic—for example, gout, rheumatism, malaria, gastric or dental crises—atmospheric, exanthematous or chronic atrophic conditions, arising therefrom will be followed by contraction and granulations, by adhesions always, if you cut or mutilate your capsules, pillars or plica, and these sequela occur sometimes even when tissues involved are not injured in the slightest, as the latent inflammations subside and the sclerotic condition runs its course in the chronically inflamed tissues.

Once in about five hundred cases we will have a case where there have been so many repeated inflammatory attacks of tonsillitis that the union of pillar, plica and capsule is so dense and subtle that it is impossible to tell where each begins or ends. Then we may have to establish a partial tonsillectomy, a word that is feared and tabooed by careful men.

*NOTE.—The following actually occurred in Vienna two years ago where several well known New York and Chicago throat men were working out in research this tonsil question: "Hello, V., have you seen my new scheme of taking out the tonsils?" "No, what is it?" "I put my new tonsillotome in position on one of the tonsils, on the tonsil coming through push up and keep on poking the tonsil until I feel it well through the ring of the guillotine; then I push the blade and the tonsil is practically enucleated."

"You kyke! Why I have seen Dr. Arthur P. Coll, Dr. Miller's assistant, do that same procedure time and again, at the Vanderbilt Clinic, as a routine practice without comment; furthermore, pull open the blade and with the upper side go for the other tonsil, place the finger of his left hand over the adherent anterior pillar while the opened guillotine was enucleating the tonsil beneath the pillar, send home the blade and bring out the buried tonsil intact."

I call my method *Amygdalokelyphy*, for I cut with sharp instruments as little as possible and also avoid the diametrically opposed procedure, fingering of tonsils, which often leaves much deep-seated edema, hæmorrhagic ecchymoses and vasomotor injuries, lasting for months. It is in this vicious area and in this infectious condition just described that almost all of the serious hæmorrhages—coming from total ablation of the pillars, cutting the ascending pharyngeal artery, making holes which connect mouth and nose with the tonsillar fossa—as well as injuries causing interference with deglutition, disturbance of phonetic values, gustatory nerve spasms and sudden collapse, have occurred even with the best of operators. To this list may be added thrombi, paralysis occurring from forcible pressure to check hæmorrhage, also infections, because good tissues have been invaded by slips of knife and other infective procedures from diseased tonsils into healthy tissues.

To avoid this gruesome alternative I begin applying my solution of cocain and adrenalin thoroughly over tonsil and pillar, then by catching hold of the tonsil at its most bulging point I test out Johnson's supratonsillar fossa and the four usual sites of adhesions with 25 per cent. solution of hydrogen peroxide, which thus far has never failed to indicate some sign of abnormal secretion.

Into one of these developed entrances to the tonsil I work with blunt scissors or director until I have practically enucleated the whole tonsil from its capsule, and although there may be small nodular portions of the tonsil still attached to the parietal walls of the tonsil one can use a blunt curette with cocain and peroxid very effectively in the removal of them.

It is possible that you may have to cut the fibrous bands; if so, seize them with the arterial clamp (Fig. 3), and cut to the inside of clamp until you have shelled out the tonsil, but, perchance, there remains a large base giving rise to quite profuse venous bleeding. Grasp it deeply and firmly with the tonsillar retracting forceps (Fig. 1), twist it on its axis vigorously, bite freely into the bleeding areas with the arterial clamp. All this does not hurt under my local anæsthesia, but the patient may become unmanageable through fear; if so, put in a staffordshire knot and snare all above it with cold snare wire, or leave it alone until another time.

When you have, on pulling out the now extruding tonsil, seen that

the bleeding is quieted down in the vicinity of the hæmorrhagic area as described before, put your snare wire (Fig. 2) over the forceps and pull out the tonsil as far as you can to the center of the pharynx, then adjust the snare as described, unguarded, slowly and accurately around it, allowing only about five seconds to each turn or swing of the handle of the snare, so that its wire loop, although around the center of engaged tonsil, can be seen above and below, on a line with, but not within, the anterior pillar of this tonsil. Then warn your patient not to spit or suck, but to lean over the cuspidor and let the blood come out if it will. Also state that for a moment only pain will be severe but not more than can be borne, then very slowly tighten to strangulation and ablation. If it does or does not bleed I advise the same procedure: Use 1 to 5,000 adrenalin on enough cotton to cover tip of finger; squeezing out the excess. Place the finger carefully into bleeding fossa over where you see the blood flowing or the spurt of the artery. Put the finger away back from the angle of the mouth, bend the patient's head over receptacle for blood, hold soaked cotton there three minutes. This simple procedure is not known in active practice, but is so valuable that every physician should know it.

Release fossa, pull back pillar, grasp inside of anterior pillar in the anterior upper third of mucous membrane (Fig. 3), if you see pulsation clamp tightly for half minute; also inside the posterior pillar half way up and in the middle of the wall perchance will be seen the pulsation, grasp that in like manner. Gloves are always worn.

Alcohol on cotton, squeezing out the excess, and painting the inside of nose enhances the effect of cocain-adrenalin solution and checks edema and cocain toxic symptoms, stimulates the patient and relieves to a large degree the psychic and vasomotor depression.

For adhesions and contractions, in addition to giving internally for eight days a half grain of Merck's thiosinamine in capsule or pill with water, after meals, I massage two or three times a day the tonsillar fossa and surrounding tissues involved with finger (hand being covered with rubber gloves always) covered with cotton which has been soaked with 4 per cent. fresh aqueous solution of thiosinamine (excess solution squeezed out) held or rubbed on parts carefully, sometimes pressing, stretching or replacing cicatrising tissues into correct position as much as possible without mutilating, and then placing a mass of the following ointment over the parts affected, rubbing in for a moment:

R.	Menthol	gr. iv.
	Sod. bicarb.	gr. iv.
	Ac. carbolic	gr. iv.
	Ol. gaulth.	gr. vi.
	Liq. carmine	gtt. ii.
	Glycerine	℥. ii.
	Ceræ alb.	℥ss.
	Meg. aq. rosæ	q. s. ad. ℥i.

M. et ft. in collapsible tube no. 1. Sig.: Rub in well as stated above.

Or,

R.	Pinol6.
	Salol6.
	Menthol3.
	Liq. petrolat.	30.0.

Sig.: Rub in well over tonsil, t. i. d., for rheumatic conditions.

With accompanying atrophic rhinitis and tonsillar atrophy:

R.	Sod. chlorid.	gr. v.
	Ac. boric	gr. x.
	Pot. citrat.	gr. ii.
	Ac. salicylic	gr. ii.
	Petrolati albæ	℥iii.
	Eucerine (Unna)	℥v.

M. et ft. in collapsible tube no. 1 (with nasal tip), apply to inside of nostril and over tonsil.

For constitutional treatment:

R. Sanguinaria canadensis 2x, mij on disk no. 1.

Ft. disks no. 50. Sig. 3 disks morning and night with water.

R.	Spts. camphor	m x.
	Menthol	gr. ii.
	Formaldehyde, 40 per cent.	m ii.
	Sanguinaria 3x	
	Ac. boric	aa ℥ss.

Sig. ft. pulv. To be used as snuff three times a day or less.

This last may be thrown into the nose with a De Vilbiss powder blower, No. 73.

The patients are generally more or less in a state of partial hypnosis; if you tell them with right psychic instruction to lie prone on the face for two minutes, and massage the nape of the neck, or apply ice to

head, or sprinkle the face with ice water, they return to the operation without fear.

The tonsillar fossa created by the tonsillokelyphy is insufflated with iodoform. Patients are not allowed to eat for eight hours, or until they have passed the first cycle of reaction, during which time ice bags are placed to the side of the neck. Then a glass of milk is taken. If no hæmorrhage, they are allowed to resume their duties carefully, but should not be dismissed until signs of adhesion and contraction disappear, for these are very important in searching out the causes and preventions which will insure against any infection or disability of the organs involved from subsequent attacks. In this way we operate but do not mutilate.

These operations produce phonetic values, for when the tonsils are taken out a new resonance chamber is found between the two great valves of our great voice producing apparatus, the tongue and the palate, which create a new condition in the voice. Here many a well-known physician, who has found it necessary to remove the tonsils of professional singers or people who use their voice constantly, will find his reputation jeopardized, for the singer will come to him after the operation with: "Doctor, I have lost my voice; I can't sing as I did before; my voice hasn't the same quality."

The patient forgets the ills and ailments, rheumatism, sore throat, etc., that have come from the diseased tonsil but which have now disappeared, and remembers only the voice.

The physician replies: "Then you say I am a voice murderer; I have ruined your voice?" "Well, no! I won't say you have ruined my voice, but I can't sing as I did before." Physician: "No, of course you can't sing as you did before, you have a new resonance chamber to use. What does your teacher say?" "He says the same thing, I do not sing as I did before my tonsils were removed." Physician: "You haven't the tonsil to help support the palate; have you practiced work that will give strength to the palate?" "No, for I don't know what it should be, nor has my teacher suggested such a thing to me." Physician: "Speak or sing on vowels with K, M, N and G; note the result." Patient does so. "Now go practice faithfully and in three weeks let me see you again." At the end of this time the voice, once more tried out, has given wonderful results; it shows added resonance and quality and the patient, now started on the right track, feels that while the voice is not

what it was before it has even greater possibilities for the future, which correct training will bring to the fore.

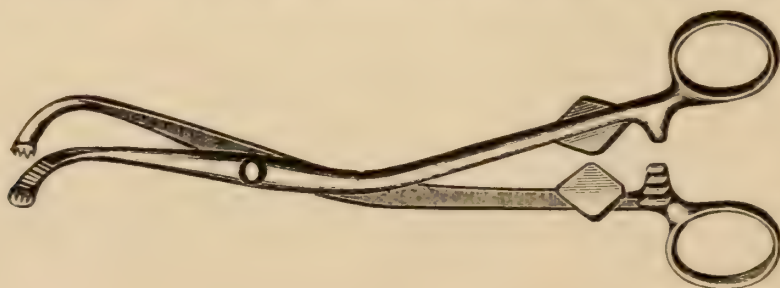
So I feel that the tonsil operation for singers, where it is needed, should benefit them if they take into consideration, and work with, this added new resonance chamber which they must learn to use; then they will know their voices are not ruined by tonsillotomy, tonsillokelyphy, or the much tabooed tonsillectomy.

When any of these phenomena occur or are likely to occur then I use continuously, at least three times a day, sounds which cause vibration of these phonetically involved structures B-M-NG-K-G into syllables EE-AH-OO-Awe, as Bee, Mee, Nee-g, Kee-ng, Bah, Mah, Nah-g, Kah-ng to cause liberation of membrane, muscles, blood-vessels and nerves by vocal exercises; these syllables exercise specifically the tongue, palate and pillars, as well as restore the injured tissues. They give also a phonetic value to our newly developed tonsillar fossa which becomes a resonator of great importance, for it is not only an accessory cavity for resonance, but also an auxillary as it adjusts both its own resonance cavity and adds new and auxillary forces of adjustment to the mouth and postnasal cavities and resonator.

Children below fifteen years of age never need tonsillectomy. With a few well-directed separations of the pillars they get a neat, wholesome and practically correct enucleation by tonsillotomy without mutilation or complication. Hæmophylia, purpuric, cases should be cauterized with 100 per cent. nitrate of silver, carefully applied after cocaine-adrenalin solution, with a fine pointed probe; if iodoform is blown on immediately no results from excess solution will follow. This can be followed by a gargle of one-quarter teaspoon of salt to a goblet of water. All cases are given from 5 to 30 grains of lactate of calcium every three hours for forty-eight hours before operation. Its coagulation—and hæmorrhagic—control effects are extraordinary, and it does not interfere with digestion.

DR. FRANK E. MILLER'S INSTRUMENTS.

Fig. 1.—This pair of tonsil retracting forceps, without the rests, was



made and used originally by Dr. Rufus P. Lincoln in March, 1886. The diamond rests were suggested by Chas. E. Davis, who has charge of my operating room. These rests greatly facilitate handling the instrument when picked out of the antiseptic solution.

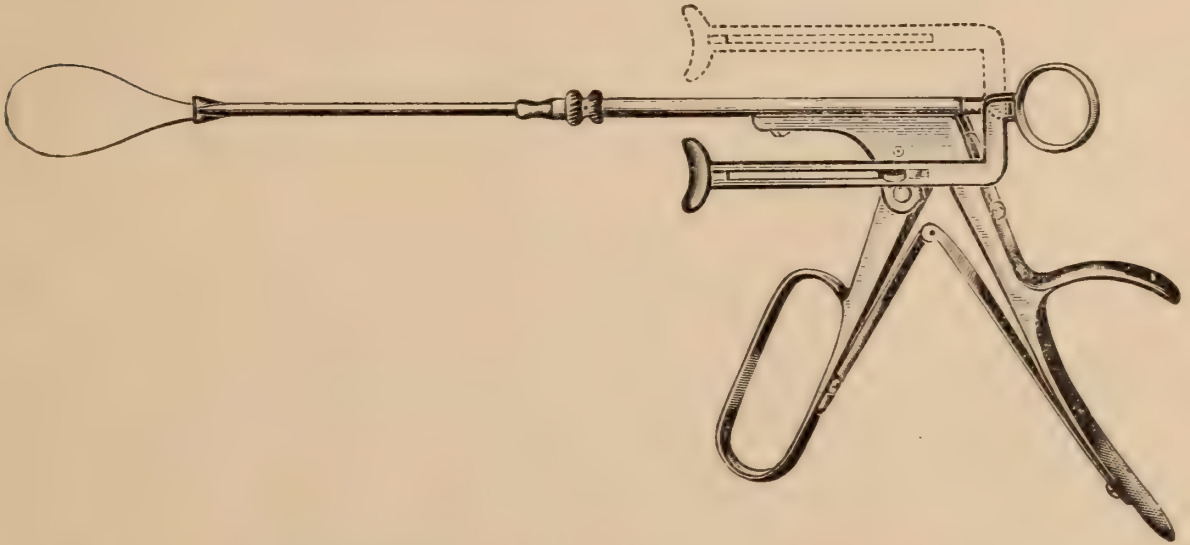


Fig. 2.—This handle is mine; it is placed on this instrument, as well as on the modified Mackenzie tonsillotome, at my request. The snare part belongs to Snowden; the reverse to Pfau. The combination was suggested to Pfau by Chas. E. Davis.

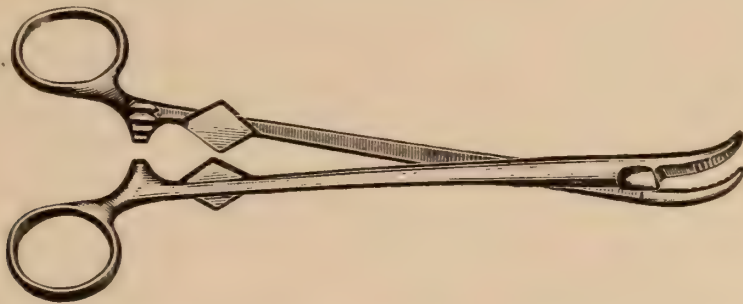


Fig. 3.—F. E. Miller's long curved bill arterial forceps.

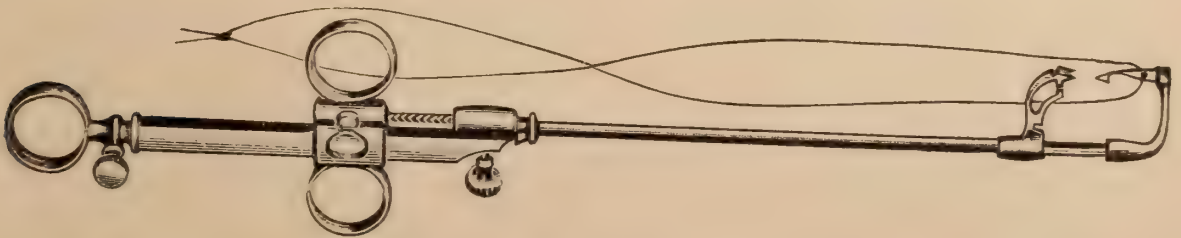


Fig. 4.—Bruenning's intratonsil and intranasal suture instrument.

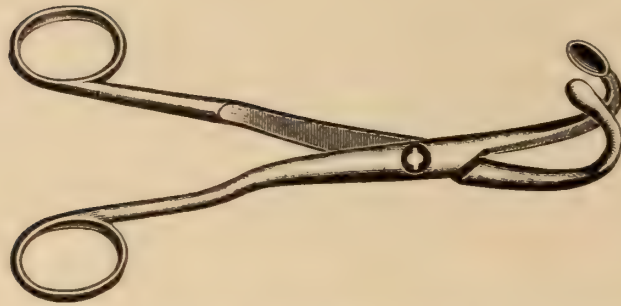


Fig. 5.—My strong, sharp or dull spoon postturbinate forceps for ablating and crushing postturbinate tip in case of hæmorrhage.



Fig. 6.—My postpharyngeal Eustachian catheter.



Fig. 7.—My forceps for holding a turbinated bone so that it will not disappear when ablated or snared; it can be held or recovered so as not to be insufflated into the trachea or œsophagus.

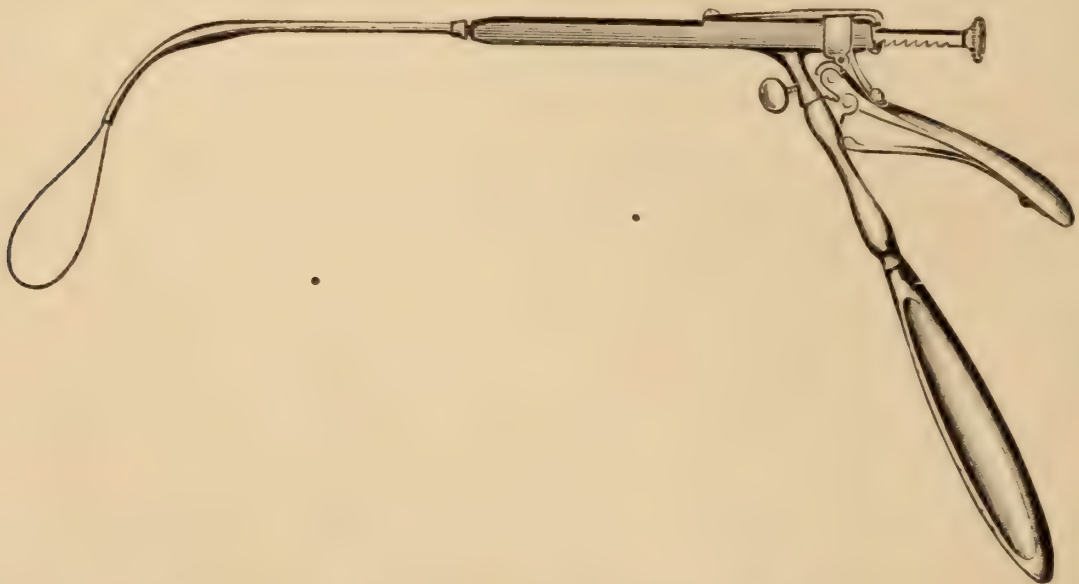


Fig. 8.—My snare, with Bosworth handle, for laryngeal polyp and papillomata when light is poor and technique is impossible. It is quite remarkable that you will do no damage with the snare, and under adrenalin will do better work than with cocain. Just put it into a papillo-

matous larynx, feel the tumor, draw wire and pull; thus you can clean out multiple papillomata in a short time.

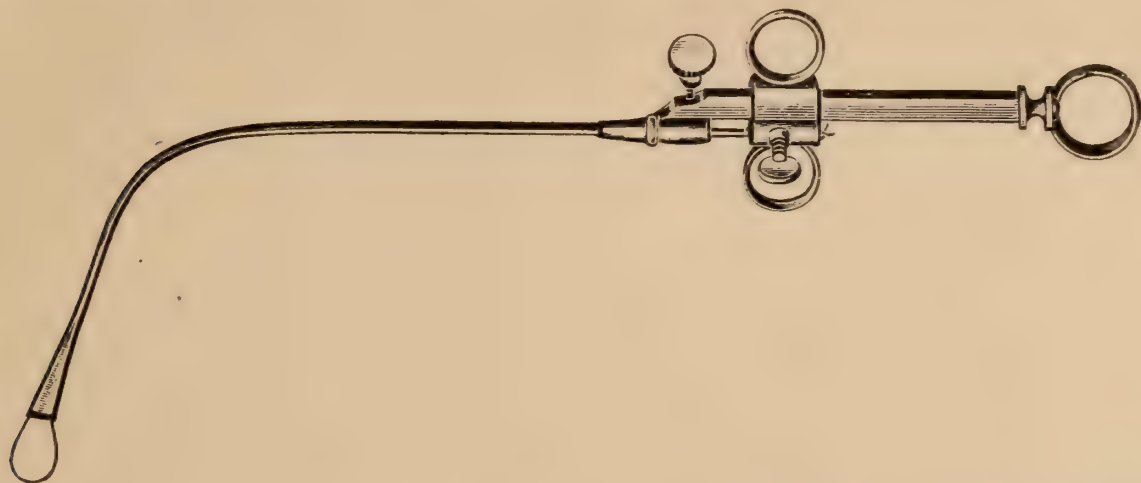


Fig. 9.—Wright's snare, with my down-curved tip for removing lingual tonsils. It saves much time and much hæmorrhage.



Fig. 10.—Small postnasal curette, the sharp edge will cut everything above the level of the pharyngeal wall. Made for small growths in the fossa of Rosenmüller or projecting into the choanæ.

A Potency Problem. If one part of the sulphate of copper to three million parts of water is sufficient to purify water in reservoirs from obnoxious plant life, as declared by Mr. G. Embrey before the Institute of Water Engineers, why is not it, or some other drug, capable of curatively affecting the human body? Indeed, as the human being is far more sensitive than the very low forms of plant life to be found in water, why is not a far greater dilution capable of doing it? It does, as homœopathic practice proves. The lion in the path is the inability of so many to choose the proper drug necessary to purify the body from its multitudinous diseases—but that is not the fault of the Law. The water engineers have proved the power lying in infinitesimals and it seems to be up to the gentlemen who enjoy the title of scientific physicians to make good their claim to the title by studying that Law.—

LOCAL ANESTHESIA, AND THROAT AND NOSE SUTURING.

FRANK E. MILLER, A. M., M. D.,

New York.

For local anesthesia in tonsillectomy, amygdalokelyphy, turbinectomy, submucous resection of septum, paracentesis of antrum, etc., I use cocain one-half drachm, 1-1,000 adrenalin solution, one drachm, or equal parts of both, placed in a salt cellar. Into this dip a small tightly wound swab which is squeezed hard to rid the cotton of excess solution. This is passed over the operative area lightly at first, and then again until the true ischæmia occurs, that is peculiar to cocain and adrenalin applications. I have no bleeding, and very seldom after operation, except in some anomalous cases.*

In the nose, look out for section or rupture of the anterior ethmoid artery and arteries and veins of the postturbinal tips.

Also in the tonsils, never sacrifice capsule, plica or supplementary pillars or cause rhinolalia aperta (nasal speech from traumatic holes in pharyngeal or palatal walls connecting tonsillar fossa with nasal or oral cavities); look out for rupture or section of ascending pharyngeal or anterior and posterior pillar or palatine arteries; also for anomalous arteries in fornix and veins and arteries in the supplementary pillar or border of capsules.

Every phase of hæmorrhage can be easily controlled (except in true hæmophilia) with my long curved bill artery clamps (Fig. 3) applied directly to the bleeding artery or vein. This should be allowed to remain three minutes to each bleeding point, and care should be exercised in catching the tissues about the anterior ethmoidal artery, or in the vicious circle just opposite, excepting the ascending pharyngeal in tonsil hæmorrhages which should be ligated on both sides of the forceps. The following original process was developed through an excit-

*For the past twelve years Drs. Bennett, Coll, Perrault and myself have one hour before a general anesthetic. given one-sixth grain of morphin with 1/200 of atropin and have applied cocain and adrenalin thoroughly to the parts to be operated upon; at the first signs of returning consciousness, subsequent to the operation, have averted nausea with an enema consisting of a teaspoonful of bicarbonate of soda to an ounce of glucose.

ing experience, in an anomalous ascending pharyngeal artery; bend a small ordinary curved needle to an acute angle by heating in a Bunsen flame, thread the needle with a suture, with my arterial forceps push it in place through the deep tissues as far as can be gone, then pull out gradually with the same forceps the point of the needle from the opposite side. Then tie artery, keeping the knot in place with a long fork-pointed tenaculum. In this manner it will not be necessary to ligate the carotid or other large blood-vessels. This process would save, in many cases, the life of the patient.

While this procedure is only for the sudden and unprepared call, we have also a most comforting solution of the outcome of hæmorrhage, ablation or slits of the pillars in Bruenning's beautifully constructed instruments; his new intratonsil and nasal needle-suture instrument (Fig. 4), which I now have, will do away with all ideas of any other form of suture, even ligation, as it makes a perfectly constructed suture and can be applied deeply as well as superficially; also, with great precision and accuracy. There need be no failure either in throat or nose, as the instrument is capable, from all points of view; no laryngologist will be thoroughly equipped for hæmorrhage, or sewing, without it. It will do nicely for sewing together edges of the wounds in rhinolalia aperta.

If the bleeding point cannot be caught without sacrificing much tissue and compression on the septum, or in a case where part of the septum has been removed in the operation of submucous resection, place a moulded splint in the opposite nostril to the bleeding point. Then pack hard commencing above and downward with iodoform gauze until the pressure thus exerted is sufficient to control hæmorrhage. This must be kept in for five days thereafter.

Any and all of the above solutions can be applied with C. P. anesthetics (if given by a skillful and careful anesthetist), as nitrous oxid, oxygen, ether or chloroform, without any collapse features from either cocain or adrenalin applied in this manner. Dr. Coll, now my chief operator, and myself have witnessed over 35,000 operations on the parts mentioned without one death, and possibly 2,000 of these were under anesthetics.

22 W. 31st Street.

HOMŒOPATHIC MATERIA MEDICA AND THERAPEUTICS.

Sneezing with coughing—Squilla, chrome alum (chroico-kali-sulphuricum—B. & T.).

Cough often ends with a sneeze—Senega.

Asthma with sneezing—chrome alum.

—Moffat.

ATROPIA VERSUS BELLADONNA.

EDGAR J. GEORGE, M. D.,

Chicago, Ill.

Of the disappointments experienced with remedies, belladonna to me has been the greatest. Yet it is considered to be one of the most valuable and potent remedies in our materia medica, particularly for acute congestive conditions of the mucous membranes of the respiratory tract, Eustachian tubes and tympanic cavities. Having been disappointed by the remedy time and again, I ceased prescribing it. Recently in an effort to find a remedy to fill in the gap between aconite and gelsemium, which belladonna occupies, I have employed atropia. Atropia 3x tablets have given me the most gratifying results in Eustachian tube and tympanic congestion. In acute congestion atropia has a marked restorative effect upon the paralyzed vessel walls that surpasses that of gelsemium. In severe facial and supraorbital neuralgia one-eighth grain of morphia combined with one-hundred and fiftieth of a grain of atropin hypodermatically effecting a speedy and permanent cure led me to recognize the efficacy of atropin in that particular affection some time before its value as an internal remedy occurred to me. It must be borne in mind that coffee antidotes atropia. I have found hepar to be the chronic atropia as it is the chronic belladonna.

CURRENT LITERATURE.

DEPARTMENT EDITORS.

WM. McLEAN, M. D.,
New York.

FRANK O. NAGLE, M. D.,
Philadelphia, Pa.

ANNALES DES MALADIES DE L'OREILLE, DU LARYNX, DU NEZ ET DU PHARYNX, September, 1913.

1. De la laryngotrachéotomie dans les sténoses chroniques laryngo-trachéales des adolescentes et des adultes. E. J. Moure, Richard.
2. Sur les symptômes de la fistule dans les affections non suppurées de l'appareil auditif. O. Beck.
3. Contribution à la laryngostomie. Sargnon.
4. Surdit  bilat rale au cours d'une syphilis secondaire trait e par le salvarsan. Lombard, Bloch, et Moulonguet.

KLINISCHE MONATSBLÄTTER F R AUGENHEILKUNDE. September, 1913.

1. Zur Aetiologie des Keratokonus. Prof. Dr. E. v. Hippel.
2. Beitrag zur Aetiologie des Keratokonus. Doz. Dr. C. Behr.
3. Ueber histologische Befunde beim Diplobazillengeschw r der Hornhaut. Ein Beitrag zur Kenntniss der Abszessbildung an der Hornhauthinterfl che. Dr. A. Lowenstein.
4. Nachtrag zu meiner Arbeit "Ueber innere Skleralruptur nebst Bemerkungen  ber den Ringabszess." Dr. B. St lting.
5. Ueber wechselnde feinpunktierte Epitheltr bungen der Hornhaut.. Dr. J. Streiff.
6. Cataracta nach Wespenstich. Dr. C. B r.
7. Ueber die w hrend der letzten 3 Jahre in der Strassburger Universit ts-Augenklinik beobachten Eisensplitterverletzungen des Auges. Dr. R. H ttemann.
8. Zur Behandlung der Linsenluxationen. Doz. Dr. F. Ask.
9. Ueber einen Fall von periodischen und kontinuierlichen Schwankungen im Durchmesser der Pupille bei angeborener oder wenigstens fr hzeitig erworbener linksseitiger Okulomotoriusl hmung bei einem neunj hrigen sonst gesunden M dchen. Prof. Dr. W. Uhthoff.

10. Operation einer Bulbuszyste mit gutem Erfolg. Geh. San.-Rat Dr. C. Augstein.
11. Ueber Veränderungen des Augendruckes durch osmotische Vorgänge. Prof. Dr. E. Hertel.
12. Ueber die Kavernöse Sehnervenentartung. Dr. A. Rados.
13. Wiederherstellung des Bindehautsacks bei Schwund der Orbita. Prof. Dr. J. E. Weeks.
14. Aderhautablösung nach Elliotscher Trepanation. Dr. M. Schur.
15. Spätinfection nach Elliottrepanation. Dr. M. Schur.
16. Ein Fall von Spätinfection nach Elliotscher Trepanation. Dr. H. Harms.
17. Bemerkungen zu der Londoner Diskussion über die neueren Glaukomoperationen. Prof. Dr. Th. Axenfeld.
18. Weitere Erfahrungen mit Skopolamin als Narkotikum. Doz. Dr. R. Kümmell.
19. Ist die Hornhaut an der Resorption des Kammerwassers unbeteiligt? Dr. C. Hamburger.

OPHTHALMOLOGY. October, 1913.

1. The mirror light for fire arms. F. Schantz.
- *2. Myopia, etiology and the optical management. C. W. Le Fever.
- *3. Report of a case of infection following extraction of cataract. H. W. Woodruff.
- *4. Report of a case of dacryocystitis presenting several complications, including orbital abscess and optic neuritis. A. G. Snell.
5. Paralysis of ocular muscles. G. A. Moleen.
- *6. Glaucomatous vertigo. L. Dor.
7. Sudden total blindness following iodine or a fracture. E. J. Bernstein.
8. President's address. J. F. Dickson.
9. Regarding some unusual varieties of rupture of the sclera. Prof. S. Fuchs.
10. The specialist of yesterday, today and tomorrow. H. Weir.
11. Choroiditis, some points as to etiology and treatment. A. E. Davis.
12. Probable deleterious effect of salvarsan on the eye. Review of literature and report of a case. E. E. Maxey.
13. Visual conservation in young children. R. A. Fenton.
- *14. Spontaneous dislocation of the lenses, with report of a case

exhibiting the pathological anatomy of the ligament of Zinn. H. V. Würdemann.

15. Keratitis neuroparalytica with report of a case. G. E. Bruere.

15. The management of psychoneurotic eye cases. F. B. Eaton.

*2. Dr. Le Fever claims there is no evidence to support the theory of too much near work as the cause of myopia, but that myopia is the cause of the choice of near range occupations such as tailors, bookkeepers, etc. He therefore maintains that full correction glasses should be worn constantly and children possessing myopia should be encouraged to use their eyes at near work, except where recent destructive lesions exist.

As the accommodation develops, the exercise of the ciliary muscle brings an increasing blood supply to the uveal tract and the uveal structures thereby develop rapidly. The iris which has been pale and thin, takes on pigment and becomes thickened. The ciliary body and choroid fill out and act as a support to the sclera.

In myopia a reversion of the above conditions occurs and as a result the choroid and ciliary body shrink and atrophy.

The conclusions he draws are:

- a. The myopic eye must be looked upon as a sick eye.
- b. Its chief ailment is from poor nutrition to the vascular coats.
- c. The poor nutrition induces atrophy, thinning and reduced support to the sclera.
- d. The lessened resistance in the wall of the eye induces more myopia, establishing a vicious cycle in which myopia produces atrophy and atrophy more myopia.
- e. The best optical management of myopia is a full correction constantly worn, because it increases the nutrition and strengthens the wall of the eye.
- f. Near use of the eyes is not a cause of myopia; it should be encouraged as an aid in the treatment except where there is a recent destructive lesion, as macular hæmorrhage, rupture of the retina, detachment, etc

*3. On the third day after a cataract extraction the eye developed a hypopyon.

A secretion which had gathered at the corneal incision contained zerosis bacilli.

An injection of 8 minims of a solution of cyanide of mercury 1:1000

with 4 minims of 4 per cent. cocain was made deep on the outer cul-de-sac. Tincture of iodine was applied to the wound incision. This treatment seemed to prevent the further advance of the hypopyon.

Two other injections were used and the hypopyon disappeared, with a later result of a disappearance of the evidences of the infection.

*4. The findings are given of the practice of frequent evacuation of the sac contents by the patient in a case of dacryocystitis in which an orbital abscess and optic neuritis developed because of the breaking of the posterior sac wall.

A complete extirpation of the lacrimal sac together with evacuation of the sinus canal was attempted. The wound healed nicely but a discharge of mucus continued through the punctal openings. A second operation was made and a small amount of mucous tissue was removed which had accidentally been left in situ. The patient's vision is reduced to 20/200 on account of the optic neuritis.

*6. Dr. Dor, of France, presents an interesting paper on glaucomatous vertigo. The symptom was first brought to his notice by the frequent remark of a patient for whom he had done an enucleation on a totally blind painful glaucomatous eye.

He has inquired for the symptom since and finds it to be quite frequent in glaucoma. He noted a removal of the vertigo in glaucomatous patients where the glaucoma responded to treatment, either medically or surgically.

*14. Dr. Würdemann reviews the embryology, anatomy and physiology of the suspensory apparatus of the lens, and cites the various dislocations of the lens.

The history, treatment and result of a case of congenital dislocation are given. He extracted both lenses, and was obliged to use the loop in both operations. After the operation the patient had better vision than at any time before the operations.

THE AMERICAN JOURNAL OF OPHTHALMOLOGY. October.

1. Keratitis disciformis. John Green.
2. Severe iridocystitis with hypopyon following cataract extraction. John Green.
3. Two cases of nævus of the conjunctiva bulbi. Adolf Alt.

J. OF OPHTHALMOLOGY AND OTO LARYNGOLOGY. October.

1. Tuberculosis in its relation to trauma of the eye. C. D. Westcott.
2. Severe traumatism from eye glasses. Case report. J. W. Kimberlin.

*3. A case of gonorrheal conjunctivitis with an interesting history. D. A. Payne. *

*3. This report of a case of gonorrheal conjunctivitis by Dr. Payne is interesting because of the probability of the cause of the infection. The patient, a passenger, on a train got a foreign body in the eye. A fellow passenger attempted its removal by using his handkerchief. Later while being shaved the barber placed two hot towels over his face. The next morning the eyelids were agglutinated, and three days later it was pronounced gonorrheal ophthalmia. Did the infection come from the foreign body, the handkerchief or the towels?

The patient denied any other gonorrheal trouble. His wife was being treated for a vaginal discharge at the time, but repeated microscopical examinations of the vaginal discharge were negative as to the gonococcus.

THE LARYNGOSCOPE. October.

1. Use of normal horse serum as a means of controlling hæmorrhage in otolaryngology. Max A. Goldstein.

2. Hiss leucocyte extract in complications of nasal and aural surgery. W. H. Haskin.

3. Report of a case of nasal polypi involving the orbit, frontal sinus and anterior fossa of the skull. W. R. Chamberlain.

4. A new and efficient treatment of atrophic rhinitis. K. K. Wheelock.

5. The influence of sounds of different pitch, duration and intensity in the production of auditory fatigue. W. A. Wells.

6. The subperiosteal temporal abscess of otic origin without intraosseous suppuration. Henri Luc.

7. Gliosarcoma of the left lobe of the cerebellum, giving external symptoms of mastoiditis. J. F. McCaw.

8. The use of gauze packing in the ear canal. M. D. Stevenson.

THE OPHTHALMIC RECORD. October.

*1. A hitherto undescribed anomaly of the macular retina. H. S. Gradle.

2. The implantation of fat in Tenon's capsule. C. N. Spratt.

*3. The case of school children at Moorfields. S. H. Brown.

4. Burn of eyeball due to caustic contents of golf ball. L. W. Crigler.

*1. Dr. Gradle describes a peculiar condition of the macula seen

by him where there is the appearance of a "hole in the macula" yet the macula is not depressed. The contrast is produced by an apparent thickening of the surrounding retina. The retina surrounding the macula does not diminish in thickness gradually but continues its usual thickness, or possibly is slightly thicker, up to the margins of the macula where there is an almost perpendicular slope of retinal tissue down to the macular floor.

The histories and ophthalmoscopical appearances of the three cases cited appear in the article.

3. At Moorfields the school children are seen in a separate department instead of being closed in with the regular clinic patients. This is by agreement between the Hospital and the London County Council. For this work the Council pays \$4,800 annually; the hospital secures the services of five physicians who receive, each \$480 annually. It is arranged to have them refract a certain number of patients each day. Glasses are supplied by an optician at a certain agreed price. Each day one chief surgeon of the hospital is in attendance at this school children's clinic as the acting medical officer and all cases apart from the refraction work are referred to him to be transferred to his eye clinic.

THE OPHTHALMIC RECORD. November.

1. Cataract extraction with conjunctival bridge. R. S. Lamb.
2. Lid elevator. W. A. Fisher.
3. A new irrigation basin. I. G. Clark.
4. Existence and prevalence of trachoma among the Indians of the northern United States and Canada. W. H. Harrison.
5. Report of a case of sarcoma of the orbit. C. E. Ide.
6. Orbital and ocular neuralgia due to dental irritation. H. V. Würdemann.

THE OPHTHALMOSCOPE. October.

1. The methods of cataract extraction practiced in the Royal Hungarian University Eye Hospital. Emile de Grósz.
2. Trephining in glaucoma, acute and chronic. Lieut. Col. R. H. Elliot.
3. Elliot's trephining for glaucoma and its technique. G. F. C. Wallis.
4. The restoration of the anterior chamber after Elliot's operation. G. F. C. Wallis.

5. A case of optic neuritis with retinitis and consecutive atrophy associated with pregnancy. T. H. Butler.

THE OPHTHALMOSCOPE. November.

1. On some of the causes of failure after Elliot's sclerocorneal trephining. Sydney Stephenson.

2. Some commonplaces with regard to plastic operations. N. C. Ridley.

3. The pathogenesis of sympathetic ophthalmitis. Franz Deutschmann.

4. Latent convergence or divergence? A. W. Stirling.

KLINISCHE MONATSBLÄTTER FÜR AUGENHEILKUNDE.

October.

1. Zur specifischen Therapie der Pneumokokkeninfection des Menschlichen Auges, besonders des Ulcus Corneæ Serpens durch Aethylhydrokuprein. Dr. M. Goldschmidt.

2. Klinische Beobachtungen über die Wirkung des Aethylhydrokuprein gegen Ulcus Corneæ Serpens. Dr. M. Schur.

3. Über die Während die letzten drei Jahre in der Strassburger Universitäts Augenklinik beobachteten Eisensplitterverletzungen. Dr. R. Huttemann.

4. Beitrag zur Kenntniss der primären Irissarkome. Dr. L. Leven.

*5. Zur pathologischen Anatomie des Glaucoma Simplex. Dr. H. Ronne.

NOVEMBER.

6. Zur pathologischen Anatomie und Pathogenese des Bupthalmus bei Neurofibromatoses. Dr. S. Murakami.

7. Beobachtungen nach erfolgreicher operation eines 15-jährigen Blind geborenen ueber sein Sehenlernen. Dr. C. Augstein.

8. Zur ætologie Rheumatischer Augenerkrankungen und behandlung von Augenentzündungen auf secundar tuberkuloser Basis. Dr. J. Streiff.

9. Pigmentflecke und Pigmentgeschwulste der Bindehaut bei verschiedenen Rassen. Dr. L. Steiner.

10. Zur Lehre von Sarkom der Aderhaut mit Berücksichtigung der experimentellen Geschwulst forschung und der modernen Anschauungen der Histogenese der Tumoren. Dr. O. Lange.

11. Hypophysis Erkrankungen und Augensymptome mit Bericht, ueber drei beobachtete Fälle. Dr. W. Boer.

12. Ueber einen Fall von isolierter Lähmung des m. obliquis inferioris. Dr. K. Steindarff.

13. Drei Fälle mit verzögerter und vorübergehender Lähmung des abduzens nach Schadelbasisfracturen. Dr. A. Dutoit.

14. Zur Tuberkulen behandlung Augenkranken. Dr. Bernheimer.

*5. Zur Pathologischen Anatomie des Glaucoma Simplex. Dr. Ronne, Copenhagen.

Pathological examination of eyes effected with glaucoma simplex at a time when vision is yet good and without having complications belongs to the greatest rarities of ophthalmological pathology. Ronne gives the pathological findings of a case of glaucoma simplex of seven years' duration in which the vision was o. d. 2/24, the patient dying of uræmia.

The case was one of typical glaucoma simplex of a chronic and favorable course. The diagnosis was without doubt—typical excavation, typical visual fields, tonometric tension measuring 45-40 tension in both eyes, promptly reduced by myotics; anatomical study—angle of anterior chamber wide open, but a sclerosing of the superficial layers of the trabeculæ in the spaces of Fontana with deposits of pigment; nowhere evidences of inflammation; anterior chamber shallow; optic nerve shows papilla excavated and atrophy of the retinal peripheral bundle, but with relatively well preserved papillomacular bundle.

According to Schmidt-Rimpler (Graeff Saemisch) there is only one typical microscopic examination of glaucoma simplex on record. Recently however in 1911-1913, Fleischer and Holth have reported cases at the Heidelberg Congress.

In the mind of the author the sclerosing changes in the trabeculæ are all sufficient to explain the increased pressure. No inflammatory changes around the vortex veins were found. An interesting point is the action of eserine, for it always promptly reduced tension. Since the angle of the anterior chamber was open, upon what condition did the action of eserine depend?

ANNALES d'OCULISTIQUE, Octobre.

1. Curriculum vitæ du Dr. Prof. E. Motais, décédé Juin, 1913, âgé 67. J. Chaillons.

2. Mémoire de Sir Jonathan Hutchinson mourut @ 85. V. Morax.

3. Des échanges nutritifs des glaucomateux. E. Sulzer.

4. Lupus tuberculeux primitif des paupières et des glandes de Meibomius. Morax et Landrieux.

5. Un cas intéressant de dacryops. Frans Lacompte.
6. Encore quelques réflexions sur l'opération du strabisme. Bettremieux.

NEW YORK STATE JOURNAL OF MEDICINE. October.

8. The indications for the labyrinth operation. Frederick Whiting.
- *10. The importance of ophthalmological examinations in immigrants. Martin Cohen.
- *13. Central scotoma and blind spot anomalies. Percy Fridenberg.
- *10. Dr. Cohen suggests that ophthalmoscopic examination be made of immigrants. Differential diagnosis has to be made between trachoma and (a) follicular conjunctivitis, (b) vernal catarrh, and (c) chronic conjunctivitis.

(a) The raised follicles are not accompanied by any marked congestion nor diffuse hypertrophy of the conjunctiva, nor by the mucoid secretion found in trachoma. The follicles begin in and spread from the lower conjunctiva; coalescing into lymphoid masses in the folds, the latter are ultimately absorbed leaving the conjunctiva comparatively normal. This disease is very common, may last for years with relapses. If acute catarrhal conjunctivitis supervenes it will respond in a few days to mild treatment.

(b) Vernal catarrh is at times mistaken for trachoma; it has—violaceous color of the conjunctiva with milky secretion, pavement-like papules on the upper tarsal conjunctiva with no involvement of the transitional folds, marked eosinophilia, history of intense itching of the eyes, and occurrence of the subjective symptoms in the spring and summer months.

In his dispensary clinic in New York during six months when immigration was low Dr. Cohen noted 21 cases who had been less than a year in this country, and doubtless had their eye lesions before their arrival. Eight old trachomas with acute exacerbation; 3 cases malignant myopia (1 had a cataract); 1 of ophthalmoplegia interna; 2 primary optic atrophy with Argyle-Robertson pupil; 2 specific chorioretinitis; 2 retinitis pigmentosa (in one family); 1 glaucoma simplex; 1 renal neuroretinitis; 1 tubercular detachment of retina, et al.

*13. The usual tests are inaccurate and require much time and patience; their test objects are too large. The author has modified Hartz's method, making a graduated scale for the perimeter with squares 1° on a side. These can be covered and exposed instantane-

ously. Colored objects do not suffice to determine the actual extent of a central scotoma, as the absolute types are generally surrounded by a zone of diminished sensibility in which red, for instance, appears as red-gray or red-brown to black or, with higher illumination, gray-red, pink-red or gray.

According to Wiebrand a progressive course of axial neuritis may be inferred from the following scotometric findings:

(a) Extent of relative and absolute scotoma identical when tested with large objects.

(b) Extent of scotoma remaining fixed for blue and white, but increased for red.

(c) Fixed extent of red field with the new development, inside the scotoma, of a defect for white object (of any size).

(d) Successive disappearance of colors from the visual field or from the region of a scotoma for white in which, previously, color was perceived.

ABSTRACTS.

Use of Iodine in Ophthalmology.—Dewaele has for the past three years used iodine in the form of an ointment, with an anesthetic, as a disinfectant of the cornea, notably after the extraction of foreign bodies.. The formula is as follows:

Stovaine, 0.15 g. ($2\frac{1}{4}$ grains) finely pulverized and dissolved in 5 drops of officinal oil.

Add, after mixing (preferably on a water bath)—

R. Hydrated wool fat, gr. lxxv (5 g.).

Petrolatum, ʒiiss (10 g.).

Add gradually the following solution:

R. Iodine, gr. ii $\frac{1}{4}$ (0.15 g.).

Sodium iodide, gr. ivss (0.3 g.).

Water, mxxiv ($1\frac{1}{2}$ g.).—*Ophthalmology*, January, 1913.

Submucous Cauterization in Laryngeal Tuberculosis.—Attention is called by the author to submucous cauterization as a method of treatment which, in his hands, has healed from 70 to 85 per cent. of the cases in which it was applied.

The operation is done with the electric cautery. The tip of the electrodes should be generally oval in shape, drawn to a rounded point at the distal end, and fairly sharp. One tip should be transverse to the axis of the shaft, the other in the same plane. By varying the position of the handle, it is possible with these two tips to make a puncture in any desired position in the laryngeal mucosa.

It is well beforehand to make a few local applications to the larynx of some bland oily solution in order to accustom the patient to endolaryngeal instrumentation and overcome irritability of the throat when the mirror is placed against the soft palate.

For the cauterization, cocainization should be thorough; 20 per cent. is the best and safest solution; if after three or four applications anesthesia is not produced, the author at once proceeds to a 40 per cent. solution. The point of application of the electrode should be far enough away from the healthy tissue, in the tuberculous mass, so that the heat necrosis will just about reach the normal laryngeal mucous membrane. The instrument is introduced cold, applied upon the selected site, enough current turned on to produce only a fairly bright cherry red, and pressure applied until the tip of the electrode has sunk into the tissue to a depth corresponding to the vertical extent of the lesion. The application is continued until the whitened cauterized area has reached the apparently normal tissues; the current is then turned off and the instrument quickly withdrawn, avoiding contact with other tissues.

Immediately after operation one sees a whitened area in the center of which is a brown stain. The whiteness persists for several days and is accompanied by slight inflammatory reaction and pain. In healing, either the entire cauterized area sloughs off in about a week, leaving a simple ulcer in healthy tissue which readily heals, or it remains *in situ* and becomes converted into a mass of dense connective tissue which shrinks. Inside of two or three months the site of a previously flourishing tuberculoma is impossible to discover.

The advantages of this method over curettage are that it is easier to perform, that there is absolutely no bleeding, and that the results are better. It is not suited for superficial ulcers on the posterior wall, particularly those on the cords (they do better on the old method of lactic acid applications). The operation is of questionable value in weak, nervous, irritable individuals with advanced pulmonary lesions, or when the patients are poorly nourished.

The cautery at white heat is dangerous. The puncture should not be too deep, nor should more than two separate punctures be made at one sitting. The immediate neighborhood of the cricoarytenoid joint should be treated with great respect.

After the operation the patient should be put upon a fluid diet, preferably milk. Rest for the larynx is important. On the first and second days insufflation of morphin and an antiseptic powder may be given, and by the third or fourth day the latter powder alone is sufficient. In about a week, or when the slough has separated, instillations of menthol in 2 or 3 per cent. solution in oil should be made.

Ocular Leprosy.—Fernandez, of Havana, says that leprosy is on the increase in Cuba, but its ravages have not been alarming. Ocular complications are common and usually progressive. Out of 250 cases, 150 had some eye trouble, and more than 30 had partial or total loss of vision. The eye complications are usually secondary. Eyebrows and lashes are absent in nearly every case, conjunctivitis is common, and frequently neurosis and ulceration of the palpebral and orbital tissue follow. Keratitis is frequent and is usually an extension through the corneoscleral junction; it spreads slowly until the whole of the cornea is involved. This inflammation is very painful, and the pain seems to be the most severe that the patient has to bear in this disease. The cornea becomes opaque and occasionally abscesses form and perforations result. The leucoma in these cases becomes very white and the cornea thin. The iris becomes inflamed by extension from the uveal tract; the retina, choroid and optic nerve rarely are affected, and the lens may be reached by extension late in the course of the disease.—*Ophthalmology*.

SOCIETIES.

To the Members of the American Homœopathic Ophthalmological, Otological and Laryngological Society:

The time has come when we should arouse ourselves from the long rest enjoyed since the last meetings of our society.

I trust that every member will be in the frame of mind to help make the coming meeting, to be held at Atlantic City, successful in every way. You will receive personal letters and requests for your individual aid.

It is the earnest wish of your President that you give him your hearty co-operation and offer any suggestion which you believe would be helpful.

From now until the meeting in June I trust every one will work with the single aim of making our society worthy of its name.

Fraternally yours,

J. IVIMEY DOWLING,
President.

BOOK REVIEWS.

MEDICAL DIRECTORY OF NEW YORK, NEW JERSEY AND CONNECTICUT, 1913. Published by the Medical Society of the State of New York. Cloth, 892 pages (of which 27 are devoted to advertisements). $7\frac{1}{4}" \times 5" \times 1\frac{1}{2}"$.

This, the fifteenth, volume of this valuable handbook publishes as usual only the names of registered physicians; the place and years of graduation with institution and society affiliations indicate the individual's practice. It is suggested that baccalaureate and similar degrees would be worth giving in justice to the time and money spent in their acquisition, but really as a help in estimating and in differentiating physicians in another locality to which one may have occasion to recommend patients.

This year the Directory contains the names of 17,858 physicians (an increase of 9 over last year); of these 13,777 (+ 81) are in New York State, 7,427 (+ 62) in Greater New York, leaving 6,530 (+ 199) in the balance of the state. There are 5,223 (+ 64) in Manhattan and Bronx, 1,920 (a loss of 7) in Brooklyn, 217 in Queens (+ 4) and 67 (+ 1) in Richmond boroughs.

New Jersey has gained 11, now enrolls 2,685, and Connecticut's gain of 2 brings its roll up to 1,396.

The names in each state are arranged alphabetically by post offices, while in New York state there is a general alphabetical list and 40 pages of examiners in lunacy arranged in cities. Street directories of New York and Brooklyn, societies, hospitals, etc., the code of ethics adopted by the New York Society and the medical law of that state add to the interest and value of the book.

ELEMENTARY DERMATOLOGY. By RALPH BERNSTEIN, M. D., Clinical Professor of Dermatology, Hahnemann Medical College, Philadelphia; Clinical Chief, Skin Section, Hahnemann Hospital Dispensary, Philadelphia; Consulting Dermatologist to five hospitals and homes and to two dispensaries. Cloth, 406 pages, $7\frac{3}{4}$ " x 5" x $1\frac{1}{8}$ ". 80 illustrations. \$3.00, including postage. Boericke & Runyon, New York and Philadelphia. 1913.

This handy volume, beautifully printed on heavy glazed paper which does justice to the numerous half-tone photographs, besides being arranged alphabetically, is enriched with a 22 page double column index. The beautifully clear type alone are enough to tempt one to read. The author's one idea is to facilitate ready diagnosis and treatment. A chapter is devoted to bacteriological dermatology, and in another the homœopathic remedies are considered alphabetically and according to lesions, location, sensations, modalities, associated conditions and indicated diseases—supplemented by an excellent repertory.

For all who would try to treat skin diseases homœopathically—and there can be no doubt of the applicability of the properly selected homœopathic remedy—this book will repay study and should be at hand.

As over one-half of this edition is already subscribed for the whole edition will, without doubt, soon be exhausted.

The Journal of Ophthalmology, Otology and Laryngology

Vol. XX

Lancaster, Pa., and New York, February, 1914

No. 2

EDITORIAL.

MEDICAL ETHICS.

ONE of the stumbling blocks in the war against syphilis and gonorrhea is that provision which still seals the mouth of the physician under all circumstances unless released by the patient involved. In many if not most of the states the supreme court has ruled with practical unanimity (failing definite legislation to the same effect) that a physician or surgeon may not divulge professional secrets even upon the witness stand without express permission of the party whose secret is at issue.

Many, perhaps still the majority of doctors, defend this, as they oppose reporting venereal diseases, saying that unless secrecy is assured their patients will resort to quacks and unscrupulous practitioners—with disastrous effects. In all candor, how much of this attitude is influenced by the pocketbook? Can any of it be fellow feeling?

Although it recognizes in the preface to its code the relation of the American Medical Association to its constituent state associations as analogous to that of the United States to the various states, the New York State Medical Society even today prescribes (Principles of Medical Ethics, chap. 1, sec. 3), "The obligation of secrecy extends beyond the period of professional services; none of the privacies of individual or domestic life, no infirmity of disposition or flaw of character observed during medical attendance should ever be divulged by physicians, except when imperatively required by the laws of the state. The force of the obligation of secrecy is so great that physicians have been protected in its observance by courts of justice."

But the American Medical Association ten years ago took a very important step for sanitation, as well as humanity, when it revised its code of ethics and said:* "There are occasions when a physician

must determine whether or not his duty to society requires him to take definite action to prevent a healthy individual from becoming infected because the physician has knowledge, obtained through the confidences intrusted to him as a physician, of a communicable disease to which the healthy individual is to be exposed. In such a case the physician should act as he would desire another to act toward one of his own family under like circumstances."

Surely none of us are so heartless as not to feel sympathy for the innocent victim of either of these awful diseases; this sympathy should outweigh that for the patient suffering from the consequences of illicit indulgence. If our sympathy for the innocent deserves the name we will seize every opportunity to so effect legislation in our respective states that—under safeguards, if you will—the physician attending a venereal case shall be allowed to reveal that fact when and in so far as necessary to save an innocent party from infection.

CORRECTION.

Dr. Edgar J. George writes us, calling attention to an error in the report of the clinic at Hahnemann Hospital on the Tuesday of the last meeting of the American Homœopathic Ophthalmological, Otolological and Laryngological Society; he followed Dr. Suffa and operated the last case. The report (p. 440, this Journal, November, 1913) credits Dr. Suffa with both strabismus operations.

"Why should a man particularly competent in the practice of the homœopathic method of medical therapeutics not be accorded the right to call himself a homœopathic practitioner when another man particularly competent in the practice of the mechanic method of surgical therapeutics is accorded the right to call himself a surgical practitioner?"

"The fact that a man is a surgeon does not deprive him, and should not deprive him, of the right to use medicinal methods; so the fact that a man is a homœopathic practitioner cannot, in the nature of things, and should not, in medical justice, deprive him of the right to use other medical methods or surgical methods, when homœopathic treatment is not indicated."—James Krauss, M. D., *Jour. of Am. Inst. of Hom.*, Dec., 1913, p. 358.

*Principles of Medical Ethics, chap I, sec. 2.

CATARACT EXTRACTION IN ITS CLOSED CAPSULE WITHOUT IRIDECTOMY.

DEAN W. MYERS, M. D.,

Ann Arbor, Mich.

As I have stated on former occasions, my operation contemplates the *removal of the lens in its closed capsule without iridectomy*. I take a little bit of credit to myself in that I had performed this operation, while in Grand Rapids, on an old soldier before I had ever heard of Major Smith's so-called Indian operation. Of course, it is not advisable to consider a procedure as established on the record of one case. In the first case I did a simple extraction without iridectomy and the result was ideal. He was 84 years old and had optic atrophy, which accounted for poor vision afterwards, but surgically speaking the result was so fine that I became an advocate of the operation.

For the last three years I have been reporting a series of cases operated on by this method. At first, no doubt, I was over enthusiastic in saving the iris; I wanted to avoid iridectomy and also the removal of the capsule afterwards. I want to say that my enthusiasm did not lead me to destroy any eyes; the records that I have published and that I have here go to show that no eye has been lost through this operation. I operate upon from fifty to one hundred cataracts a year and when you have that many you are bound to lose one or two from infection or other causes. Three years' reports show only two infections. Less than one and one-half per cent.

As I have said, my method contemplates the removal of the lens in its closed capsule and without iridectomy, but I do not hesitate to do an iridectomy whenever it is necessary, either because the patient is unruly or because of inability to replace the iris satisfactorily in the anterior chamber. My desire is to operate on all cases by this method of extraction with capsule intact unless there is some good reason to the contrary. If, after extraction of the lens, loss of vitreous makes it advisable or tendency to prolapse of the iris or failure of the pupil to contract renders it necessary, I make an iridectomy before closing the eye because it is the safest thing to do. If the iris replaces readily and I am able to make a wide puncture in its base, I usually put in a drop of

eserin and the results have been very satisfactory. I believe eserin to be valuable in such cases.

The wide puncture at the base of the iris helps very materially. There are two cases reported here side by side, which were operated upon the same day, one performed immediately after the other. Both were done with the technique I have described. In both there was the same incision, same extraction of the lens in its capsule, same replacement of the iris, eserin used in both. In the first of these cases I made a wide puncture in the iris, in the other I did not. The first had an uneventful recovery with central circular pupil, the other had prolapse of the iris. I have observed that where this wide puncture is made the iris is more often saved from secondary prolapse.

One case reported in my paper was that of an old man who had celebrated his eightieth birthday. He came as a private case. He had attended a reunion just before coming to the hospital and had indulged in lots of good things to eat and drink. When he arrived he was in a hilarious mental condition. I did not learn of this until after I had operated upon him. He had insisted on visiting all the rooms in the hospital regardless of the age, sex or condition of the patients therein. After the incision he forced the speculum out, together with the lens, iris and a large volume of the vitreous. There was a violent hæmorrhage also. I fixed it up as well as I could, washed away the blood and put the eye at rest with a bandage. But at the time of the first dressing I found a large blood clot and vitreous in the wound. I cocainized the eye again and cleaned it carefully without further loss of vitreous or collapse, but the eye shrivelled and atrophied later.

There are forty-five cases in the report. Of that number twenty-two were extractions in the capsule, fifteen irido-punctures without iridectomy. There were twenty-one cases of central circular pupil. Following operation there were eight cases of iritis. Five cases were complicated by the pupil slowly displacing itself upward. There were fifteen cases of iridectomy performed at the time of the operation and three cases in which it was a secondary operation; the latter on account of prolapse discovered at the time of the first dressing. There were two cases of ruptured capsule; in one case the capsule was removed after the extraction of the lens. There was loss of vitreous in fifteen cases. I do not consider this accident as at all fatal to the result. Of course, I regard extensive loss of vitreous as an unfortunate

complication and to be avoided if possible. In the report there are two cases of infection; I think you will find that there was some special reason for the infection. In one of these, the patient was mentally deficient and tore the bandage from the eye a half hour after leaving the operating table, causing an infection of the wound; this was case No. 7.

In case 41 there was infection and I call particular attention to this case because autogenous vaccine was used to combat the poison. Five million staphylococci were given every few days with success and subsequently I performed an iridectomy with good results.

In case No. 42 I attempted to make a simple extraction, but was balked by prolapse of the vitreous. The lens was delivered on the loop. Eserin was used in thirteen cases, secondary cataract occurred in three, hypopion in four cases. Enucleation followed the operation in two—cases 7 and 19. Secondary prolapse of the iris occurred in four. Preliminary iridectomy was done in three cases.

No.	Name	Sex	Age	Kind of Cataract	History	Operation	Pupil and General Condition at completion of Operation	Dressings	End of Second Week	Refraction	Remarks
1	Sarah Powell	F	57	Senile Rt. Eye	Gradual failure of vision	Iridectomy. Complete prolapse of watery vitreous. Lens extracted in capsule.	Iris replaced; pupil pretty good, clear and pillars replaced.	1st. Incision closed. Iris cloudy but no pain. 2nd. Vision good, no pain. 3rd. Same. 4th. Same. Argyrol 50%	Coming later for report. Slight conjunctivitis, iris still cloudy, no pain, vision good.		Uneventful recovery.
2	Mary Clark	F	72	Senile Rt. Eye	Gradual failure of vision	Simple Myer's extraction. w. i. p. Pupil c. c.—Eserine 1%	Pupil central circular and contracted to pin point. General condition good—Small amount of blood in anterior chamber.	1st. Incision closed, small clot in front of iris, pupil central circular, atropin 1%. 2nd. Pupil central circular, clot gave no pain. 3rd. Slight iritis pupil slightly pulled upward. 4th. Same.			
3	Mr. John Cheshbrough	M	65	Senile Rt. Eye	Gradual failure of vision	Iridectomy. Capsulotomy.	Hemorrhage at time of incision. Obscured field—section did not release lens—General condition good.	1st. Incision closed clot in anterior chamber. 2nd. Clot nearly gone. 3rd. Pupil clear, vision good, no pain. 4th. Same.	No reaction—pupil clear. Conjunctiva still inflamed.	+ 11. s = + 2. c. 180° = 20/80. Temporary.	Uneventful.
4	Fred Garlow	M	52	Senile Lt. Eye	Gradual failure of vision	Iridectomy. Capsulotomy.	Vitreous presented at incision. Iridectomy. Capsulotomy. Keyhole pupil.	1st. No reaction, incision closed. 2nd. Same. 3rd. Same, no pain. 4th. Same. 5th. Capsule becoming opaque. 6th. Condition same. 7th. Same. 8th. Same.	Capsule quite opaque—vision no good but was very good at time of operation. Coming back for needling.		
5	Jacob Brumbach	M	35	Left Eye Senile Laminated	Gradual failure of vision	Simple Myer's extraction. Rupture of capsule. Prolapse of vitreous. Iridectomy.	Pillar of iris replaced nicely. Wide keyhole pupil.	1st. Incision closed, no reaction, vision good. 2nd. Slight iritis, some inflammation of conjunctiva. 3rd. Same. 4th. Same. 5th. Same, iritis worse, hot packs, etc. 6th. Iritis continues.	Severe iritis, very slight hypopyon due to collection of white cells in anterior chamber. Practically no vision at end of 3rd week.	Not attempted at this time.	Nervous iritis suggesting specific trouble in patient.
6	James Higgins	M	68	Senile Left Eye	Gradual failure of vision. Light reflex good.	S. M. Ext. Iridotomy. Eserine 1%. April 8.	Central circular pupil—Iris replaced nicely—General condition good.	1st. Pupil central circular and contracted. Incision closed. No reaction. Argyrol 50%. 2nd. Good. Atropin 1%. 3rd. Same, uneventful.	No reaction. No pain, pupil central circular. Discharged from hospital, coming later for reference.	Temporary refraction + 10. s. = 25/120.	Uneventful recovery.
7	Martha Webber	F	73	Senile Rt. Eye	Gradual failure of vision in both eyes. Reflex good.	Iridectomy and capsulotomy.	Keyhole pupil. Iris replaced—condition good—Reasonably quiet.	1st. Incision open—Iris and cornea dull. 2nd. Pus in eye. 3rd. Infection grows worse. 4-5-6. Same. Enucleation—pus discharges. Argyrol—vaccine discontinued because of no reaction.	Enucleation one week after operation; gradual slow recovery from same.		Patient foolish—clawed bandage from eyes ½ hour after leaving operating room—infection from this source—no physical or mental resistance.

No	Name	Sex	Age	Kind of Cataract	History	Operation	Pupil and General Condition at Completion of Operation	Dressings	End of Second Week	Refraction	Remarks
8	Mrs. Etta Kimball	F	57	Senile left eye	Gradual failure of vision. Reflex good.	Iridectomy. Lens extracted in capsule.	Iris replaced. Loss of vitreous due to clamping of eyelid by patient.	1st. Incision closed—vision good. 2nd. Same. 3rd. Same—uneventful.	Slight conjunctivitis. Nearly cleared up—no pain.	Temporary refraction—coming later. + 11. s = + 1. c. 165° = 20/120.	Uneventful recovery.
9	Mary Trosk	F	75	Senile not mature right eye	Gradual failure of vision, right eye worse. Light reflex good.	S. M. Extraction. Iris replaced nicely. Eserin 1% February 20th	Central circular pupil. Iris replaced nicely. No escape of vitreous.	1st. Prolapse of iris. Cornea buckled—Pupil projected upward. Incision good—Incision not closed—Argyrol 50%. Feb. 23—Cornea buckled—severe conjunctivitis—no pain. Feb. 24-25. Same swelling of conjunctivæ going down. Feb. 27. Same. March 7. Seeing some.	Left for home—conjunctivitis, iritis exudate, pupil small—sees light—Returning later for iridectomy.	Not made.	Feb. 22—Iridectomy—On p. m. of day of 1st dressing intraocular hemorrhage occurred—Extensive bleeding—much pain.
10	Sherman Zauble	M	47	Senile cataract left eye ripe	Gradual failure of vision. Good reflex.	Incision made for S. M. Extraction. Patient squeezed eye. Capsulotomy done. Eserin 1%.	Pupil central circular. iris replaced nicely. Condition good.	Incision not entirely closed—small prolapse of vitreous—pupil projects up—atropin 2%. 2nd. Slight conjunctivitis. Argyrol. 3rd. Same. 4th. Same. 5th. Same doing nicely.	Slight conjunctivitis, pupil pulled upward, capsule remains not opaque.	Lens does not help.	Secondary iridectomy, Feb. 4th.
11	Philo Waldo	M	61	Senile cataract right eye	Gradual failure of vision. Light reflex good.	Incision made for S. M. Ext Slight iridotomy. Intra-cap. extraction. Pupil enlarged upward. Eserin 1%.	Pupil large, small bit of iris caught at top of pupil. Replaced nicely.	1st. Iritis—patient not quiet—incision not closed. 2nd. Slight prolapse of iris into incision. 3rd. Same atropin does no good. 4th. Same hot packs. 5th. Same, pain at night. 6th. Same. 7th. Same, pain. 8th. Pains, condition same.	Severe iritis—hot packs—remedy and local measures do not relieve to any extent.	Not attempted.	April 11—Left for home—plastic exudate fills pupillary space—Coming later for iridectomy.
12	Alfred Clark	M	32	High myopia—18. D.		Capsulotomy. Lens soft. Pupil c. c. Eserin 1%.	Pupil central circular. Soft lens substance and capsule remain. Counts fingers and people about the room.	1st. No reaction—incision closed—atropin. 2nd. Same. 3rd. Large amount of loose substance obscured the vision. 4th. Same. 5th. Same. 6th. Same.	Soft lens substance and capsule remain, sent home until absorption takes place.	Can't see at this time.	Uneventful recovery.
13	Mrs. John Weaver	F	71	Senile right eye very ripe	Gradually failing vision. Light reflex. Pupillary reaction to light. Left eye inoculated for glaucoma.	Simple Myers extraction Feb. 4, 13. Eserin 1%.	Central circular pupil. Iris reacts nicely. No loss of vitreous. Sees light. Condition good.	1st. Pupil central circular conjunctiva injected. Few white threads seen thru pupil. Iris clear—vision good. Argyrol 50%. Atropin 2%. 2nd. Same. 3rd. Same. 4th. Same. 5th. Same. 6th. Same.	13 days after operation patient left for home. Condition very good. Central circular pupil. Very slight conjunctivitis.	+ 9. s + 2. c. 45° = 20/120.	Uneventful recovery.

No.	Name	Sex	Age	Kind of Cataract	History	Operation	Pupil and General Condition at Completion of Operation	Dressings	End of Second Week	Refraction	Remarks
14	Mrs. H. C. Mead	F	48	Senile left eye not mature	Gradually failing vision. Pupil reacts to light.	Simple extraction. Capsulotomy. Feb. 6, '13. Eserin 1%.	Central circular pupil. Iris replaced nicely. Condition good.	1st. Pupil elongated perpendicularly, clots in anterior chamber. Iris dull—vision good—atropin 2%. 2nd. Pupil dilates. Clot gone. Iris clear—atropin 2%. 3rd. Good condition. 4th. Same. 5th. Severe acute conjunctivitis. Agyrol 50%. 6th. Same. 7th. Same. Conjunctiva clearing off.	Conjunctivitis cleared up—pupil elongated upward—iris clear. General condition good.	Feb. 18, '13— + 12. s = 20/80 Reading not attempted at this time.	Pupil drawn up from effect of needle, knife reaching one's iris.
15	Mr. Y. H. Randell	M	58	Senile left eye very mature	Gradual failure of vision. Pupil reacts. Had cataract extracted from other eye, 18, '13.	Simple M. extraction. Eserin 1%. Feb. 18, '13.	Central circular pupil. Iris reacts. No loss of vitreous. Condition good.	1st. Pupil drawn up, elongated in 00 meridian. Slight conjunctivitis. No pain. Sees very well. 2nd. Pupil pulled up—iris shows as black ring at margin of incision. 3rd. Same. 4th. Same. 5th. Same. 6th. Same. 7th. Same.			March 4—Needling of the other eye.
16	J. B. Baker	M	79	Opaque capsule	Following cataract extraction.	Needling. Part of capsule removed with forceps. Feb. 20.	Vision very good—pupil still circular and central.	1st. Condition O. K, pupil central circular—vision good. 2nd. Vision good—slight conjunctivitis. Agyrol 50%. 3rd. Same. 4th. Same, vision good. 5th. Same. 6th. Same.	End of 1st week patient discharged, vision good, feeling fine.	Feb. 27, '13— + 8. s = + 4. c. 15° = 20/80. + 14. s = + 4. c. 15° = 35 type.	Uneventful recovery.
17	Henrietta Traub	F	69	Senile	Loss of vision. Pupil reacted to light.	Cat. ext.; closed capsule; iridectomy.	Some prolapse of vitreous.	1st. No pain, no prolapse of vitreous. 2nd. No complications. 5th. No complications. 11th. No complications. Uncomplicated recovery.	Keyhole pupil.	Not refracted.	Vision very poor, no refraction taken.
18	B. J. Bond	M	74	Senile	Loss of vision. Pupil reacted to light. L. E.	Prelim. iridect. capsulotomy.	Left O. R. in good condition.	1st. No pain. No prolapse of vitreous. Uncomplicated recovery.	Keyhole pupil. Very good condition.	+ 7. s = 3. c. 180° = 20/80. + 13. s = 3. c. 80° = p. r. 30 in.	Secondary needling of lens.
19	Charlotte Knapp	F	66	Senile	Loss of vision. Reacting pupil. R. E. cap.	Ext. S. M. Iridectomy.	1st dressing disintegrated blood in eye ball, prolapse of vitreous, pain. 7th. Dressing continued pain, a prolapse. 8th. Eye enucleated. 10th. No complications.	Great prolapse of vitreous at completion of operation.	Eye enucleated.		Patient very disagreeable and would not hold eye quiet. Syringed the eye at the time of operation, causing prolapse. Incision would not close—contents of eye were ejected necessitating enucleation.

No.	Name	Sex	Age	Kind of Cataract	History	Operation	Pupil and General Condition at Completion of Operation	Dressings	End of Second Week	Refraction	Remarks
20	Charles Kiley	M	63	Senile	Loss of vision. Re-acting pupil. R. E.	Iridect. capsulotomy	Good condition.	1st. No prolapse, no pains. Uncomplicated recovery. Discharged in two weeks.	Keyhole pupil. Good vision.	Not refracted.	Uneventful.
21	Rev. Wm. Judd	M	69	Senile	Loss of vision. Re-acting pupil. Left eye.	S. M. Ext. Iridopuncture.	Central circular pupil good condition.	1st. No pain, no prolapse. 4th. Pain iritis. 7th. No pain. 8th. No pain. 9th. Pain. 10th. No pain. 12th. No pain—discharge.	Central circular pupil, pupillary reflex. Good vision. Fine result.	Not refracted.	Recovery complicated with iritis which was controlled with hot stupes.
22	Mrs. Wm. Dunbar	F	54	Senile	Loss of vision. Re-acting pupil. Right eye.	S. M. Ext. Iridopuncture.	Central circular pupil good condition.	1st. Slight prolapse of vitreous and iris. 2nd. Prolapse of vitreous and iris, pupil projected upward. 3rd. Prolapse, some pain, one drop atropin. 4th. Pain. Iritis. 5th. Pain. Iritis. 6th. No pain. 8th. No pain. 10th. No pain. 12th. No pain.	Central circular pupil, pupillary reflex. Some prolapse of vitreous. Fair vision.	Not refracted.	Left hospital with slight prolapse. To return to have prolapsed mass removed if not absorbed. Patient an epileptic, had several convulsions
23	Mrs. Margaret Elliot	F	54	Senile	Loss of vision. Re-acting pupil. R. E.	Prel. iridectomy. Capsulotomy.	Some prolapse of vitreous.	1st. Incision closed, no pain. 2nd. No pain. 3rd. Pain in eye, stupes ordered. 4th. Some pain—stupes. 5th. No pain. 6th. No pain. 7th. Some pain. 8th. No pain. 10th. No pain. 12th. Some pain. 13th. Very little pain.	Keyhole pupil. No prolapse of vitreous. Fair vision.		Patient very hard to control. Operated up under upper lid.
24	Steven V. Evans	M	63	Senile	Loss of vision. Old iritis.	Preliminary iridectomy. Capsule ruptured, but was removed.	Some hemorrhage into anterior chamber. General condition good.	1st. Some pain. 2nd. Some pain. 4th. Dressing still some pain. Hot stupes and conjunctival. 7th. Not much pain. Stupes since 4th day. 11th. No pain. Pad left off.	Keyhole pupil. Vision about same as before operation.		Patient got up out of bed during 4th night following operation. Had pain in eye next morning which continued for several days.
25	John Baker	M	78	Senile	Loss of vision.	Iridectomy, capsulotomy and Ex-traction of lens.	Good condition.	1st. Eye looking well, no pain. 3rd. Condition about the same. 6th. Free from pain, doing well. 10th. Same.	Uneventful recovery. Fair vision.		

No.	Name	Sex	Age	Kind of Cataract	History	Operation	Pupil and General Condition at Completion of Operation	Dressings	End of Second Week	Refraction	Remarks
26	Jos. J. Bergman	M	40	Traumatic	Hit in eye some years before. Gradual loss of vision. Can see with this eye. Decreased tension.	Incision made for simple M. extraction. Not enough tension to express lens. Iridectomy and capsulotomy.	Condition good..	1st. Eye in good condition. 3rd. Progressing nicely. No pain.	Uneventful recovery. Excellent vision.		
27	Owing Stevens	M	76	Senile	Gradual loss of vision.	S. M. Extraction. Prolapse vitreous. Iridectomy performed.	Fair condition, although some escape of vitreous.	1st. Incision bulges to some extent. 2nd. Some pain and iritis. Atropin. 3rd. Same incision closed. 5th. Still some iritis. 7th. About same. 9th. Less pain, doing well. 11th. No pain.	Excellent result. Counts fingers. No pain. Keyhole pupil.		Patient had been doing nicely but complained of backaches, and on evening of 13th day after operation had dizzy spell, fell to floor and died within 30 minutes.
28	Twey					S. M. Extraction.	Upper portion of iris caught in incision so that pupil is not entirely round but nearly so.	1st. Eye looks good. 3rd. Some iritis. Atropin and hot stupes. 4th. Some iritis. Atropin and hot stupes. 5th. Some iritis. Atropin and hot stupes. 7th. Some iritis. Atropin and hot stupes. 8th. Iritis improved, still using atropin. 12th. Much better. 14th. No iritis or pain.	Excellent result. Counts fingers. No pain.	Coming back for refraction.	Patient got up out of bed about the second night but no bad results followed.
29	Mrs. M.A. Nicholson	F	70	Senile right eye	Loss of vision. Retacting pupil.	S. M. Ext. Wide irido-puncture.	Central circular pupil. No prolapse of vitreous.	1st. No pain. No prolapse. 2nd. No pain; no prolapse. 3rd. No pain, doing well. 4th. No pain, doing well. 5th. No pain, doing well. 6th. No pain, doing well. 7th. No pain, doing well. 8th. No pain, doing well. 9th. No pain, doing well.		Feb. 18, '13— + 9. = + 2. c. 45° = 20/50. Reading, + 11. s = + 2. c. 45° = 35 in. type.	3 months after operation pupil central circular. Beautiful result.
30	Mrs. Lydia Hackenburg	F	68	Senile	Loss of vision. Retacting pupil.	S. M. Ext.	Central circular pupil. No prolapse of vitreous.	1st. Incision not entirely closed. No prolapse or pain. 2nd. Incision closing. 3rd. Incision closing. 4th. Incision closing. 5th. Incision closed. Some pain in eye. 6th. Incision closed. No pain. 7th. Incision closed. No pain. 8th. Incision closed. No pain. 9th. Incision closed. No pain.			

No.	Name	Sex	Age	Kind of Cataract	History	Operation	Pupil and General Condition at Completion of Operation	Dressings	End of Second Week	Refraction	Remarks
31	H. Misner	M	47	Senile	Gradual loss of vision.	Lens extracted in capsule. Wide iridectomy made. Escape of vitreous.	Pupillary margins free	1st. Incision partially closed. 2nd. No pain—iris clear, incision nearly closed. 3rd. Incision closed, no pain—no iritis. 4th. Incision closed, no pain—no iritis. 5th. A little pain for about an hour. 6th. A little pain for about an hour. 7th. Less pain—can count fingers. 9th. Still a little pain—looks well.	11th. Slight pain in night. Iris caught slightly in incision. 13th. Almost no pain. Good vision. Pupil slightly irregular.		
32	Anna Bentley	F	53	Senile	Gradual loss of vision. Eyeball somewhat atrophied. R. eye.	Lens extracted in capsule; prolapse of vitreous. Iridectomy	Prolapse of Keyhole pupil.	1st. Incision closed, small blood clot in anterior chamber, seems to count fingers, pupil clear, no pain, no involvement of iris. 2nd. Eye doing well, no pain. 3rd. Eye doing well, no pain. 4th. Eye doing well, no pain. 5th. Pain in eye, iris involved. 6th. Pain in eye, iris involved, conjunctivitis. 7th. Pain in eye, iris involved, conjunctivitis. 8th. Pain decreasing, conjunctivitis. 9th. Pain decreasing, conjunctivitis decreasing. 10th. Pain decreasing, conjunctivitis decreasing. 11th. Pain decreasing, conjunctivitis decreasing.	Eye had healed, having circular pupil, counts fingers. Although there was no pain there was considerable photophobia.		
33	Arthur Rhoads	M	65	Senile	Gradual loss of vision.	S. Myers extraction. c. c. pupil. Wide iridopuncture. Escerin.	Central circular pupil. Condition good.	2nd. Some pains and some iritis. Hot stupes, atropin. 3rd. Some pus in anterior chamber, Cornea seems opaque. Pain, pus about incision. 4th. Considerable pain. Much pus and cornea opaque. 5th. Condition about the same. Bacteriological test shows staphylococcus infection.			Enucleation performed seven days after operation for cataract. • Eyeball on section shows entire cavity filled with pus, and cloudy humors.
34	E. M. Gesler	M	68	Senile	Gradual loss of vision.	Left capsulotomy. Lens extracted without iridectomy.	Central circular pupil.	2nd. Incision closing. Very little pain. 3rd. No iritis—very little pain. Can't count fingers. 5th. Round pupil—no pain, can't distinguish hand. 6th. Same. 7th. No pain—counts fingers. Incision closed.	Capsule seems quite opaque, severe conjunctivitis, lacrimation. Gave Zn Cl ₂ —ABC.		Coming later for refraction.

No.	Name	Sex	Age	Kinds of Cataract	History	Operation	Pupil and General Condition at Completion of Operation	Dressings	End of Second Week	Refraction	Remarks
35	Dennis McCarthy	M	33	Traumatic	Struck with awl 15 years ago. Lens became opaque. Counts fingers. Complains of currents of blood before eyes.	R. Capsulotomy. Lens extracted without iridectomy.	Central circular pupil.	2nd. Complains of pain. Incision closing. 3rd. Still pain—pupil fairly round, appears to be lens capsule behind pupil—still sees streamers. 5th. Can see fairly well, not much pain. 6th. Same. 7th. Pupil round—no pains.	Incision closed. Pupil round but pulled toward center canthus. Capsule does not show.	+ 10 s = 20/80.	Uneventful.
36	C. C. Strack	M	78	Senile	Gradually failing vision.	Simp. Myers extraction. Wide iridopuncture.	Central circular pupil.	2nd. Incision healing—no pain. 3rd. Incision about closed, no pains—counts fingers. 4th. Same. 5th. Same. 6th. Good vision. 7th. No pain.	Pupil clear but pulled up. Iris caught in incision. Sees to walk around.		Uneventful—Coming later for refraction.
37	Charles Reynolds	M	72	Traumatic right eye	Hit in eye 12 years ago. Gradual failure of vision. Great dilatation of pupil, due to paralysis.	S. M. E.	Very slight escape of vitreous. Very large irregular pupil—some vision—general condition good.	1st. Incision seemingly closed—no pain—vision good. 2nd. No pain—slight bulging of iris. 3rd. Same. 4th. Same. 5th. Same. 6th. Same.	Wound thick—pupil wide—not reacting to eserin, cornea clear.		Patient had trouble with stomach, first night—sat up in bed—unable to keep him quiet.
38	Mrs. D. Hersey	F	60	Senile left eye	Gradual failure of vision. Left eye. Reflex good.	S. M. E. Wide iridopuncture. Eserin 1%.	Iris replaced nicely. Pupil central circular. Vision good.	1st. No reaction—no pain. Incision closed—pupil central circular. At end of 17 days was permitted to leave hospital and report to Dr. Rhonehouse—had iridocyclitis at end of 10th day.	Projects good—good vision—central pupil, cornea clear—good result.		At the end of 2nd week an iridocyclitis developed, probably from catching cold, which reacted well to local heat, mydriatics and R.
39	Mr. A. H. Hettich	M	70	Senile left	Gradual failure of vision. Reflex good.	S. M. E. No iridopuncture. Pupil c. c. Eserin 1%.	Iris replaced nicely. Pupil central circular.	1st. Prolapse of iris—pupil small and drawn up—no pain. 2nd. Iridectomy done. 3rd. Keyhole pupil, no reaction. Permitted to go home at 10 days—to report to clinic—some inflammation of conjunctiva and iris present.	10th day—wound closed—conjunctivitis slightly inflamed—atropin daily.		
40	Mr. Jas. Hoslett	M	72	Senile right	Gradual failure of vision. Light reflex good.	S. M. E. Pupil c. c. Eserin 1%.	Very slight escape of vitreous. Iris replaced nicely with central circular pupil.	1st. Pupil central circular. Incision closed, no reaction. 8th day—small persistent prolapse of vitreous thru iridopuncture—touched, 3rd. time with Iodine tr. closing. 18th day wound closed, iris all right.	Incision touched with iodine θ . Small sloughing pedicle of vitreous cut away. No signs of irritation. Anterior chamber partially est., slight leakage.		

No.	Name	Sex	Age	Kind of Cataract	History	Operation	Pupil and General Condition at Completion of Operation	Dressings	End of Second Week	Refraction	Remarks
41	Mrs. Jane Hanna	F	56	Senile cataract left eye	Gradual loss of vision. Reacting pupil.	S. Myers extn. attempted. Prolapse of vitreous. Iridectomy. Jan. 30.	Great loss of vitreous. Keyhole pupil. Incision closed.	1st. Feb. 1, clot in anterior chamber. Pupil not clear; considerable inflammation in conjunctiva due to fixation forceps. 2nd. Considerable conjunctivitis. Iritis beginning, clot in anterior chamber. 3rd. Conjunctivitis. Considerable pus in eye, cornea clouded. 4th. Puffy swollen eyelids, chemosis, opaque cornea, incision open, pus in eye and anterior chamber.	5th. Dressing about the same, no pain. Autog. vaccine. Staph. albus 5,000,000 every few days—50%. Hot packs—argyrol. Chemosis gradually corrected. Clot and plastic exudate gradually absorbed showing clear iris tissue. 2-17, pain gone—iris clear, plastic exudate over the pupil.	May 29, '13—Returned to hospital. Eye closed over nicely. A wide downward iridectomy done.	Whining pulsatile—la lady left for home Feb. 18th. Would not stay for further treatment. At this time eye looks good, iris clear, no pain. Swelling of conjunctiva gone but its inflammation still present.
42	Mrs. Haight	F		Soft senile cataract right eye	Gradual loss of vision.	Started S. Myers ext. Prolapse soft vitreous. Lens delivered on loop. Wide iridectomy.		1st. Wound closed. Anterior chamber well reformed. Cornea clear. 2nd. All right. 3rd. All right. 4th. Little bloody exudate over iris. 5th. Exudate absorbed.	Anterior chamber formed, clear. Little redness of peripheral area.		
43	Mr. James Smalley	M	48	Soft traumatic cataract (capsular) right eye	Four months ago was struck in o. d. with a sliver of wood. Post-synechia, occluded pupil. Little pain.	Iridectomy. Soft traumatic cataract removed.		1st. Exudate in coloboma, pupil down. incision closed, anterior chamber reformed. 4th. Exudate absorbing. R Kali iod. 2x—	Exudate clearing up—little pericorneal redness. R Atropin b. i. d. Kali iod. 2x.		

DISCUSSION.

WM. M. MUNCY: As I have not had the pleasure of reading Dr. Myers' paper, I shall base my discussion upon my own experience, keeping in view the doctor's opinions as stated in his previous articles.

It appears to me that there is not another operation in the field of surgery wherein the personality of all the individuals concerned—patient, physician and assistants—are so much in evidence. There is a nicety of technique wherein the latitude of good judgment seems almost reduced to a minimum, therefore a procedure which is most satisfactory to one surgeon may prove the opposite to another; and as one method is weighed against another, it is hard to eliminate the personality of the operators.

My own experience with the "iridectomy and capsulotomy" was anything but satisfactory, although I thought I was particular in selecting my cases, waiting until the lens had matured. Various incisions of the capsule were tried with the result that one out of four cases had to be needled later. This made a third operation; a circumstance anything but pleasing to either patient or physician. Then, in order to shorten the procedure, iridectomy and extraction were tried at the same operation without any apparent change in the results over the previous method. Meanwhile I questioned extraction of the lens in capsule. I had not at that time read any of Dr. Myers' articles on this subject, and the Major Smith technique sounded somewhat dangerous for a beginner.

However, circumstances forced me to perform my first removal in capsule. It was a case with an atrophic iris that would not dilate. After an iridectomy, the lens in its capsule was successfully removed with very pleasing results. This led to similar extractions in which cases iridectomies were performed. I soon learned that the nearer the incision to the corneoscleral junction the lesser the resulting astigmatism; and I sometimes thought the easier to remove the lens, as it did not have to be tipped so much. There was some loss of vitreous in most cases, but no iritis.

Dr. Myers' method led me to perform the operation without iridectomy. Not so much to obtain a round central pupillary opening as to reduce the number of cases with leakage of vitreous. In this respect I found his technique a great improvement. In fact, I think there have been fewer cases where there was any perceptible loss than in the original cases where the capsule was left.

I use a somewhat modified "Indian method" in the removal of the lens. A constant pressure is made backward towards the optic nerve with a spatula placed to one side and below the median line of the cornea in order to tip the upper edge of the lens forward. At the same time with the elbow of a strabismus hook massage gently upward on the lower edge of the lens. Slowly and gently the lens dilates the pupil

and causes the edges of the incision to dilate. The spatula pressure is by this time reduced to zero. Gentle pressure upward with the elbow of the strabismus hook presses the cataract outward without folding the cornea beneath the lens. Pressure is not made with the loop on the scleral side of the wound, though later the lens may be supported by it during the last stage of extraction. Severe iritis was noted in a number of cases without affecting materially the ultimate result. I have used pilocarpin nitrate after extraction, but do not know as it is of any advantage. Though iridopuncture was not used, I feel had it been used the percentage of central circular pupils would have been larger.

There were two rather interesting cases. In the first, the patient was very nervous and after the corneal incision a marked spasm of the lids was noticed. It is a question whether the assistant in removing the Desmarres retractors allowed them to press against the eyeball. The mature lens ruptured its capsule, passed out of the incision and appeared at the palpebral fissure. There was considerable loss of vitreous, marked iritis and part of the capsule blocked the pupillary area. After the inflammation subsided she refused a needling, though she had vision for only fingers at three feet.

The second was a traumatic cataract following an incised wound of the cornea caused by a flying piece of glass. The symptoms two weeks after the accident were: high tension (+ 3); severe pain in and over the eye; a swollen lens, partially opaque; and sympathetic irritation in the other eye. The lens and capsule, the latter ruptured, were removed with immediate subsidence of all grave symptoms. Vision at present, one and a half years after the operation, is 20/40. Better vision would have been realized if it were not for the scar and astigmatism caused by the original wound, as the pupillary area and vitreous are perfectly clear.

I do not feel that I have operated upon enough cases to speak with any authority as to what is the best *modus operandi*. It may be that very unsatisfactory results under the older methods were due to a lack of skill or judgment and that my present confidence is due more to experience than to method.

One thing I know: that with the extraction in capsule without iridectomy I approach a cataract operation with greater assurance of success. It seems to me a much simpler technique when all things are considered than the old way.

We owe much to Dr. Myers for keeping us informed of his experiences, and especially for the tabulated record of his cases. The latter is in itself a task requiring much time and patience to compile.

J. IVIMEY DOWLING: I have had only a limited amount of experience in this particular mode of operating for cataract. I have done about ten operations of the kind and my results were, with one exception, satisfactory. In that case I allowed the bandage to remain on too long—ten days, I think. There had been iritis and slow occlusion of the

pupil so that the vision was 20/70. If I had looked at the eye earlier I would have had better results. Vision in that case should have been 20/30. In another case I had loss of vitreous at the time of operation; in such an event I employ the method of filling the vitreous cavity with sterile normal salt solution. Here I examined the eye in four days. It got along well and to my surprise there was 20/20 vision after refraction. In all of these cases I did iridectomy. In one case I found the vision reduced to 20/100 after having been somewhat better. I was unable to bring up the visual acuity in this case; I found the hyaline membrane folded on itself. Perhaps if I had done the old operation, the hyaline membrane would have been better supported. Other than that I could not explain the lack of good vision. In one case the result was similar to one mentioned by Dr. Myers: the patient had a blood pressure of 200; we reduced it at the time of the operation to 180. The family physician advised the operation and at his advice I went ahead. After some days things did not seem to be going on right and my suspicions were aroused. I opened the eye and found a blood clot filling the wound, it was gaping to the extent of one-half inch; I was curious to see whether the wound would heal and the staphyloma flatten out. I treated the eye. It healed up, however, without vision. I think likely that the eye would have been lost anyhow. I had a similar case ten years ago. My deduction is that the operation is a good one, but that leaving the bandage in place for eight or more days is a mistake. When I removed the bandage in four days the results were satisfactory.

BURTON HASELTINE: What are we to conclude from this report? Do you recommend it as a good procedure? Do you, as a result of this report, recommend us to try it?

C. G. FELLOWS: I do not attempt to remove the lens with its capsule at the same time, but I often do it without intending to. Last October I performed an operation for cataract and at the first cut everything came out, lens, capsule and all, with 20/20 vision after correction. But that result will not induce me to try it again intentionally. The case I operated on yesterday with loss of vitreous is getting well.

F. C. SAGE: What is the rule in regard to removing the speculum after making the incision? Several cases in which I did that the lens and capsule came right out.

DEAN W. MYERS: There was one thing I did not mention and that is the importance of cautioning our cataract cases about overwork after going home. I have had some experience with the bad results of that. A case done with iridectomy and capsulotomy by the old method with excellent results; the patient went home with fine vision so that he did all of his seeing with the operated eye. It was potato digging time and he worked hard all one day in the field, getting very tired. Next day noticed that his vision was nearly gone. I found the retina detached. It was about a year after the operation.

BURTON HASELTINE: Was there loss of vitreous at the operation?

DR. MYERS: No. The other case of detached retina was a woman of fifty-six years. I did my operation on her, simple extraction in the capsule, with a beautiful result; made a puncture in the iris and there was a central circular pupil. I closed the eye in perfect condition. In forty-eight hours I made the first dressing. There was uneventful recovery; very little inflammatory reaction. At the end of two weeks she went home with instructions to be careful for several weeks. She happened to be married to a wealthy miser. He told her that she was all right now and insisted upon her doing housework. There was much sweeping and dusting to do. About twenty days after the operation she got up one morning and discovered that she was blind in that eye. She returned and the retina was found floating behind the pupil. That is the first case I have ever seen with detached retina so soon after the operation. Both of these cases of failure can be charged to overwork.

The old man with the shrunken eyeball injured his eye in his sleep after the operation, striking it in a dream or nightmare. As to the question of the bandage, I have discarded the use of the bandage after cataract operation. I use a simple eye compress, two layers of gauze with a layer of cotton between them. Lay that in a warm boric acid solution, lift out of the solution and put it dripping onto the eye. Gently mould it around the eye, then put a dry one over it and hold in place by adhesive strips across the face and brow. No pressure is made by it upon the eyeball. This does away with the disagreeable results that follow slipping of the bandage. Dr. Haseltine wants to know whether this is a good procedure for him to follow. I say it is, but I believe that it should be used in selected cases. There is no question but that the lens slips out much easier in old cases than in young ones. There must not be too much mechanical manipulation. Unless it comes fairly easily, it is better to make a capsulotomy in the old way, especially in matured cataracts. Whether you do or do not do an iridectomy must be decided at the time of the operation. There is no way of telling beforehand. As to the question whether you had better do it or not, I should say that it is the best operation if the iris goes back easily and the pupil contracts. Then make a puncture in the iris and use eserin and you are almost sure to retain the iris in the anterior chamber with good results. When you find intraocular pressure forcing the iris upward and outward, you had better do an iridectomy. I claim that an iridectomy can be done just as well after the extraction as before.

E. J. GEORGE: Is not the violence necessary to push the lens out liable to cause or to favor detached retina?

DR. MYERS: I do not think so. It is, in my estimation, a perfectly safe operation. The pressure does not cause any traumatism of the retina because you are pressing on an open globe. I have seen no more cases of detached retina in the new operation than in the old. The vision under this operation has been very good so far as I have been able

to follow cases up. In answer to Dr. Sage I will say that most of my operations are done with the use of a speculum. I have a small rigid speculum that I can steady with the pressure of two fingers. It lifts both eyelids off the ball. The object is to have an active pupil after the operation, one that will contract. Iritis occurs in some of these cases.

Complications in Tonsillectomy.—*Hæmorrhage*. Charles W. Richardson states that an error in technic and accident are more frequently the cause of this complication than hæmophilia; that there is less danger when the operation is performed by finger enucleation. *Hyperpyrexia* without known cause is sometimes a complication. We should not be unprepared to have a case with this complication end fatally. Wishart reports a case of a young girl who, after the operation, had a temperature rising to 107° and who died twelve hours after the operation. Richardson had a similar case in a child of four who died a few hours after the operation. He has had two cases result in *infarct of the lung*, one in a man 45 years of age, who, six days after the operation ran a septic temperature with a constant cough, and complained of great pain in the base of his right lung. Some weeks later an abscess developed and an operation was performed with a favorable result. The other case was a young woman of twenty-four. Ten days after the operation she developed a severe cough and later expectorated large quantities of pus. This case recovered with the administration of hexamethylenamin. *Mild sepsis* enduring for a few days is a frequent complication of tonsillectomy. Sonntag reports a case developing torticollis with swelling of the knee and right wrist, death occurring from general infection. Dean has reported three cases, one dying of general sepsis; a second was a case of cerebral thrombosis with recovery, which did not manifest itself until fifteen days after the operation. *Emphysema* is a rather rare complication. One case is reported by Parrish and the author had a mild case develop in his practice. *Pneumonia and pleurisy* as sequelæ are not usually reported but there is a sufficient number of cases to indicate that such complications do occur. The author had two cases of pleurisy, which recovered, and one case of pneumonia. Coley reports three cases of *septic infection of the serous membranes* and Putnam has seen two cases of *meningitis*. Among other complications may be mentioned *disturbances of the nervous system, status lymphaticus, a dermal rash* appearing a few days after operation and local disturbances such as *edema, hæmatoma, abscess, torticollis, injuries to the surrounding parts, especially the uvula, and infection of the middle ear and of the cervical glands*.—*Laryngoscope*, June.

SIMPLE CHRONIC GLAUCOMA.

ALBERT E. CROSS, M. D.,

Worcester, Mass.

WHATEVER the cause, simple glaucoma is one of the greatest problems that the ophthalmologist of today has to meet; and while an attempt has been made in this paper to discuss the causes of this disease, and various methods of treatment, I lay no claim to special originality in the material presented.

I realize that probably no subject in ophthalmology has received more study, and one, the literature of which has reached enormous magnitude, filled with every conceivable theory concerning its etiology and treatment.

As yet no one has solved the problem. After a careful analysis of its literature we feel forced to the same conclusion that Balfour did in his essay on Progress, to doubt its very existence; and is it any wonder, with these conflicting opinions concerning etiology, that there is no harmony among oculists concerning its treatment?

I know of no patients that consult me regarding their eyes to whom I feel a greater responsibility concerning their future welfare than those with chronic glaucoma; for I realize that an error in prognosis is often a more serious matter to the patient and more humiliating to the physician than an error in either diagnosis or treatment.

I further believe that if we will make a careful study of our cases covering a long period of years, we must necessarily come to the conclusion that the prospects for either operative or nonoperative methods of treatment are for palliation and not for cure; that often their relative value is a matter of choice between the risks of operation, with a remote chance of relief, and the keeping of the patient with a fair central vision and a slowly contracting visual field for a period of years.

Priestly Smith defines glaucoma as "An excessive pressure within the eye, plus the causes and consequences of that excess," a definition which will harmonize with our personal observations; but we frequently meet cases of simple glaucoma in which we are unable to demonstrate either by the tactile sense or the tonometer any increase

of tension; and it is to this type that Schoen gives the following definition: "Glaucoma simplex is a form of glaucoma in which the tension occurs always in the absence of the surgeon." If the patient should live in the presence of his physician he would never suffer from an attack. We are all familiar with the consequence of tension, so that these factors will not require further discussion.

Concerning its cause, however, because of its importance in relation to treatment there still seems to be room for discussion; for here we even find a conflict regarding the normal anatomical relations of Schlemm's canal. Parsons holds that the canal is held constantly open by its walls being firmly adherent to the surrounding rigid sclerotic; while Henderson says that it is a venous sinus or channel lying free and attached only by its tributary veins, so that there exists between it and the sclerotic a potential space capable of injection by fluids, such as India ink.

Hess shows that individual differences of the normal ciliary body may be a factor in the development of simple glaucoma. He produces eight illustrations showing parts of the ciliary body of different normal eyes. It is seen that in an infant the ciliary processes are narrow, their bands fairly far apart with flat irregular folds between them, that the surface of the processes is uniformly pigmented and that considerable space separates their apices from the margin of the lens. In the eye of the 80 year old patient the individual processes are much thicker, often with club-like ends towards the lens; the intermediate spaces between the individual processes are much smaller; at the bottom of these spaces numerous lumpy or sausage shaped knobs are visible. The summit of the processes, which in the infant form straight, dark, comparatively narrow stripes, here are white, in regular, much broader, and studded with bulbous outgrowths. The distance from the lens is considerably less than in the infant, the broad clubbed processes reach often to the equator; in other eyes they extend toward the anterior surface of the lens.

In the aged the ciliary process is, in the neighborhood of the apex, about three times as thick as in the infantile eye; the iris itself, especially near its root, is often twice as thick as in those of infants. These conditions, as you can readily see, may be a very important factor with the normal increase and development of the crystalline lens in producing by mechanical pressure a very gradual obstruction of the

spaces of Fontana. Every dilatation of the pupil in such an eye, must produce still further shortening and thickening of the iris tissue, and with every act of accommodation may so obstruct the narrow sinus, stop the outlet and thus provoke an acute attack of glaucoma; or by its very insidiousness produce grave symptoms before the patient is conscious of any trouble.

Walfors holds that high tension and glaucoma are not identical. All forms of glaucoma have symptoms in common, such as lowering of light perception caused by malnutrition of the rods and cones through interference of the circulation through the chorio-capillaris. He agrees with Fuchs in thinking that the primary cause of glaucoma is in some disease of the choroid; if this disease is in the chorio-capillaris we have the picture of simple glaucoma, with slow decline in vision and without any noticeable increase in tension. If, however, the disease is more marked in the muscular layer which is so to speak the supporter of intraocular tension, we have the veins in that location compromised in their functions and the outflow is obstructed, giving us the rapid increase in tension found in acute glaucoma. This stasis explains the hyperemia of the conjunctiva and ciliary body. The pressure on the ciliary nerves explains the dilatation and sluggishness of the pupil, also it explains the shallowness of the anterior chamber.

Schoen says that, as a matter of observation, the deepest cuppings are frequently found in cases which show absolutely no increase in tension. He says in the human body there are three mechanical forces that cause increase in tension, namely, inflammation, tumor and heart action. The first two may be dismissed at once, as simple glaucomatous eyes do not show any evidence of either. The interior of the eye is always subject to blood pressure, but this theory does not account satisfactorily for the increase in tension; he says the increase is finally due to loss of support of the ciliary muscle and its tendons, thereby allowing the intraocular pressure to be exerted directly on the sclera when it then becomes perceptible to touch.

Troncoso states, from the data secured from the analysis of the aqueous from 19 patients with varying types of glaucoma, that the albumin varies from the mere trace found in normal aqueous to 3.85 per cent. This increase in albumin he believes is an essential factor in glaucoma and is due to an essential lesion in the vascular walls similar to those found in intestinal nephritis. This increase in albumin would

not account for the hypertension until of a percentage high enough to interfere with normal filtration; in that case we would expect a deep anterior chamber instead of a shallow one; but its effect in increasing the amount of vitreous by impregnating all the tissue would be to increase the pressure in the vitreous chamber, thus forcing the iris forward, producing a shallow anterior chamber, by mechanical obstruction of the canal of Schlemm. That this is possible, has been proven by experimental methods of increasing the pressure in the vitreous chamber.

Whether this excess in albumin is due to a degenerative process in the ciliary body is not known; but the fact that in some types of cyclitis high tension is produced in a similar manner would give us some reason to believe there was some degenerative change going on which would modify normal secretion.

Henderson has claimed that sclerosis of the pectinate ligament is the sole cause of glaucoma; recently Verhoeff has been able to demonstrate the presence of a sclerosis of this ligament, but only when there was anterior synechia present, which gives evidence of a previous inflammatory reaction in that area.

While it might be admitted that this might be an etiological factor, I have been unable to recall the record of any case where it could be demonstrated that this was undoubtedly the only factor in producing the increase in tension.

Last year we had a paper presented on this subject, stating that an absolute cause and cure had been found by laboratory methods, referring to the work of Martin H. Fischer who states that glaucoma is an edema of the eyeball, the hydration capacity of the tissues of the eye having been increased. This he explains is brought about by any condition which may lead to an abnormal production or accumulation of acid; in consequence of this abnormal acid content the hydration capacity of the ocular tissues, especially of the colloids, is raised and glaucoma ensues; not because, he says, water is pushed into the colloids, but because of the acid conditions present; they suck in water from every available source; the obliteration, therefore, of the filtration angle is not a primary condition but is secondary to the swelling of the tissues behind the iris, mechanically producing obstruction.

Abadie believes that glaucoma is frequently caused by irritation of the circular nerve plexus covering the ciliary zone, and that consequently secretion thereof should have an antiglaucomatous action.

His reasons are that a small iridal incision has as beneficial an action as a large one and that filtration through the incision is not the cause of the decrease in tension, since glaucoma frequently gets well when the incision is almost all corneal and well closed.

We might continue indefinitely quoting various theories concerning its etiology, but the experiences of our daily practice tell us that no one of these theories can satisfactorily account for all of our cases of glaucoma; in most cases we feel certain that it is necessary to raise several theories to explain any one case.

The possible causes then are many; and in any given case we may find that any possible cause may be in that case the actual one.

Every explanation of glaucoma seems to be one of the increase in tension; but does glaucoma occur without increase in tension? Some writer has said that "Glaucoma without increased tension is not glaucoma, but an affection of the optic nerve with excavation." If this is so, what is the zero point above or below which we can state with assurance that tension is plus or minus?

When stating the tension of an eye, we should avoid such indefinite terms as plus 1 or 2 or minus 1 or 2, because we now have in the tonometer of Schlötz a reliable instrument that will with but little practice give trustworthy measurements of the ocular tension in millimeters of mercury. No description of this instrument is necessary as it was well described and demonstrated at the meeting last year. Stock's recent analysis of tension in one hundred normal eyes made with this instrument shows a variation of from 12 to 27 mm. De Schweinitz, in reporting his own observations, says that he has never seen one as low as 12 and that the normal as indicated by his results was between 20 and 25 mm. Other observers seem to agree with these observations; therefore, if tension is below 20 can we make a positive diagnosis of glaucoma?

If we agree that the word glaucoma designates a condition of increased tension, then it would be impossible; but if we have the cupped nerve, gradual or complete loss of the nasal quadrant of the visual field, reduced visual acuity, sluggish pupil and shallow anterior chamber, I believe we have the right to make such a diagnosis without increase of tension.

At the present time I have under my care several cases of this type, in only one of which, after repeated tests with the tonometer,

was it above 20 mm. In this case a man of 62, his mother, three brothers and one sister were blind from this disease. He first consulted me eight years ago to verify the diagnosis, made by another oculist, of progressive optic atrophy. He gave a history of gradually reducing vision, especially of the left eye, but now the right had begun to show marked changes. He had never had any pain in either eye and never had any headaches except an occasional dull ache in the morning which wore off through the day. At this time there was a central scotoma in the left visual field, the nasal quadrant was entirely lost. The right with refractive correction gave central vision of .6, but the field was generally contracted, the nasal quadrant down to 20° . Because of the marked reduction in the visual fields and the deep cupping of the nerve I advised against operation and put him on myotic treatment, with the result that the right eye still has central vision of .3; but the field is steadily and slowly reducing. In February the left eye became suddenly painful and an acute inflammatory attack followed, necessitating an iridectomy. At this time the tension of the left was 60 mm., but the right still remains at 20 mm. While I realize that this case from the first had a sluggish pupil and an exceedingly narrow anterior chamber, it would under Schweigger's classification be considered an inflammatory case. I believe we would be justified in making a diagnosis of simple chronic glaucoma, because of the very long prodromal period, probably not less than 15 or 18 years, before the acute symptoms arose. Knowing that with two brothers blindness supervened immediately following iridectomy, we might ask if eight years of reasonably good vision was not as good or better than could have been promised under the most ideal operative treatment?

Another case of a man 44, of good habits, and myopic 5.50 diopters, gives a history of failing vision for the past eight years. In this case a previous diagnosis of simple atrophy had been made and no treatment had been advised. He consulted me a little over a year ago. At this time I found a normal anterior chamber but a dilated and sluggish pupil. There was a deep complete excavation of both optic disks. He had for two years past occasional periods when there was a rainbow halo about lamp or electric lights. Right visual field generally contracted and nasal portion entirely lost to the median line; also a marked central scotoma. Left visual field nearly normal in temporal section, but contracted very markedly on nasal side. No

history of any headaches or eye pain. His tension at first visit was 19 mm. in right eye and 18 mm. in the left. Myotic treatment was advised; while the right has steadily lost ground the left has remained stationary, and there has not been any change in tension that I can ascertain, although approximately 20 tests have been made. With the exception of tension, we have all the cardinal symptoms of glaucoma; and while the tension is well below normal limits we can admit the possibility that this may be a relative rather than an absolute excess, a type of case in which the only explanation of the deep excavation is one of structural weakness of the globe at the lamina cribrosa. But the frequency of this type of case is such that it precludes a diagnosis of glaucoma because of a relatively low tension.

Given the conditions of low tension and all the classical symptoms of glaucoma, how are we to distinguish between simple or inflammatory glaucoma? I do not believe a separation can be made. I realize that what is the simple chronic case of today may be the acute case of tomorrow; and this may also be true of a normal eye, provided certain disturbances of circulation were to take place. No sharp boundary line exists. Simply, as Elsching states, "Compensation has failed, and the true choke phenomenon has taken place."

He characterizes those cases which remain free from inflammatory symptoms of the anterior segment as compensated glaucoma, and the cases in which inflammatory symptoms arise as noncompensated glaucoma. If the glaucoma has existed but a short time, and no marked changes in the optic nerve have taken place, he terms it recent; but he admits that an optic nerve excavation may occur independent of whether it is compensated or noncompensated.

While the contrasts in some typical cases are so marked that we might declare them to be essentially different, yet we do find on careful study a close though hidden resemblance. Both conditions show a predilection for small eyes. In both there is displacement of the iris, slowly changing in one, rapidly in the other, together with the usual symptoms of chronic glaucoma. From the foregoing it is fair to assume that the two types cannot be absolutely separated.

We now come to the main purpose of this paper. We have considered some of the more prominent elements concerning its etiology. We have also discussed the probability of glaucoma being present without increased tension, unless we admit that it is relative; and now what is the remedy? Can we reach some common ground in treat-

ment? Does the operative treatment give a better percentage of good results than myotic treatment?

I do not pretend that my personal experience is either very great, or covers a great number of years; but it has been sufficient to bring me in touch with the problems to be solved and has led me to believe that in a given type of cases the myotic treatment will give better results than operation.

All of the operative measures have for their object, solely, the reduction in tension to normal and the maintenance of tension at or below this point. That iridectomy or the newer operations do this for any length of time is open to question. In fact since von Graefe first introduced the operation of iridectomy, numerous theories have been propounded as to how an excision of a piece of iris reduces tension; and I doubt if this has ever been satisfactorily answered.

The fact that with each new year some new and more bizarre operation for the relief of glaucoma is presented to the profession by the more zealous adherents of operative treatment, is proof that as yet no operation is giving us satisfactory enough results to make us sure regarding the operative procedure we are to undertake.

All of the newer operations are based upon the theory of producing a filtering cicatrix, in the belief that it is possible to establish permanent drainage through scar tissue. Some have claimed that the success of an iridectomy was not in the opening of the filtration channels at the base of the iris, but that the cut iris surface forming the base and pillars of the coloboma never undergoes any reparative process, always remaining an open filtering area, provided the operation is done before atrophy of the iris stroma has taken place.

Henderson states that iris tissue only heals when the iris has been previously subject to inflammatory processes, therefore iridectomy wounds in normal tissue are never closed; but according to the experiments of Alt in rabbit's eyes he found them to heal, and states that they have been seen to heal in the human eye.

Furthermore, we should expect that unless the iridectomy was performed very early in the case the cut edges would heal and prevent filtration, as the iris is practically never in a normal condition; if we still believe that the entire trouble is at the iris angle, and see the main cause of glaucoma in a blocking of this angle, we must explain how it is that we so often see favorable results from a very poorly performed iridectomy, with the incision well within corneal tissue and

only a small section of the iris removed, instead of the one which is broad and peripheral. From these observations it would seem that the beneficial result of an iridectomy must be due to some thing or things that happen during the time when the operation is performed; as Abadie states it may be due entirely to the cutting of the circular nerve plexus.

In considering the newer operations, we find the same contradictory evidence regarding the possibility of filtration. Most of the newer operations, especially that of Lagrange and the trephine of Elliot have not been performed long enough to give us any reliable data regarding their efficiency over myotic treatment.

Experiments on animals made by Andogsky and Senensky from 8 to 145 days after performing sclerocorneal sections, injections of 5 per cent. citrate of iron solution into the interior chamber to determine their permeability. The permeability not only in the clinical picture but by microscopic examination was found to depend greatly upon the age of the scar; in from 8 to 14 days drainage it was decided; from 21 to 40 days but little pigment could be found in the scar or subconjunctival tissue; and from 40 to 145 days no trace of filtration could be found. Their conclusions were that scleral scars possess certain permeability at a particular stage in development; as an operation this must not be regarded as providing a channel of exit for the aqueous humor, and it exercises only an indirect influence in the restoration of normal tension.

Meller also states that while there is no question of filtration through scar tissue for a time, the older the scar the more impermeable it becomes; and I believe this agrees with our observations of scars in other tissues. That the bulging of the tissue which covers the scleral opening gives so much increased area for the fluids of the eye to occupy is true; but is there any evidence that the conjunctiva covering the hole allows any of this fluid to filtrate through? And now does the evidence presented by adherents of operative treatment give us reason to be confident that we can give a better prognosis by operation?

Bull, reporting a series of cases of chronic glaucoma with iridectomy, shows that there was no permanent improvement in any eye; slow but steady failure of central vision in 70 per cent. of the cases during a period of 5 to 11 years; permanent reduction in tension, and that only by the tactile senses, in only about 40 per cent. It

should be further stated that as myotics were used after the operation in all of these cases, it is practically impossible to determine what the actual effects of the operations were. Furthermore he states that in most, if not all of these cases where the local use of myotics was omitted, the ultimate results were more unfavorable.

Schleich reports the results in the Tübingen clinic of the operative and myotic treatment, in cases which had been under observation more than two years. Of those treated by iridectomy, 7.8 per cent. became blind immediately or within a short time; 76.5 per cent. showed a more or less gradual progression of loss of function; while only 15.7 per cent. showed a cessation of the process. By myotics, progression of the disease in 61 per cent.; checking of the process in 39 per cent. Here again we have the factor to consider of the continued use of myotics after operation. He concludes that iridectomy cannot be considered a trustworthy remedy, because in the majority of the cases that are followed long enough it does not give the good results usually ascribed to it; and, on the other hand, in a fairly large proportion of cases it produces immediate harm. He still further believes that faithfully employed myotic treatment has not been sufficiently tested, and often the bad results reported are due undoubtedly to a lack of thoroughness in carrying out the treatment.

Gusz (Budapest) reports a series of 62 cases, giving a percentage of success far above any operator that I have been able to find, when he states that 70 per cent. of the cases were controlled by operation.

I have purposely omitted statistics regarding the newer operations as I have not been able to find trustworthy data covering a period of years sufficient to base any authoritative statements of its efficiency over iridectomy.

In a paper read some years ago by Posey, it was shown that the measure of relief by myotic treatment was at least equal to that of operative treatment; and when we consider that the postoperative use of eserine was necessary, the decision regarding efficiency would seem to be profoundly in favor of myotic treatment.

I think we can go a step further and define more closely the type of case where we should expect even a better proportion of results from myotic treatment: these are where we have no increase in tension, an anterior chamber of reasonable depth, and an iris that is active and showing but little dilatation. Those cases showing a very shallow anterior chamber, with a more or less dilated and sluggish

pupil, will sooner or later in nearly every instance have an attack of inflammatory glaucoma, provided that tension is not above normal, are sufficiently better than by myotic treatment to warrant criticism for saying to our patient "Take your choice." In any case the prospects are more for palliation than cure either way; and, as I said before, we must decide between maintaining reasonably good vision over a period of years or accepting the possibilities of sudden total loss, post-operative cataracts (these are not uncommon) and the remote chance of permanent relief.

In order to obtain the best results from myotics they must be properly administered. It must be remembered that the effects of eserine or pilocarpin persist but two to four hours, so that the dose should be repeated at the end of this period if the action over the pupil is to be constantly maintained. Small doses of the drug should be used in the beginning and gradually increased until the desired effect of maintaining a pin point pupil is attained; action should be maintained by still further but less frequent increase in the strength of the solution used. It is, of course, understood that with the local treatment we shall take into consideration the general physical condition of our patient, prescribing carefully and giving special attention to the intestinal canal and general hygiene.

1041-5 Slater Building.

DISCUSSION.

I. D. METZGER: I desire to express my appreciation of this contribution to a mooted subject. It affords an excellent resumé of the various theories as to the etiology of glaucoma. It is significant that in this subject the more we seek for causes producing the classical effects—blindness showing first in the nasal field, gradual contraction of the visual field for form and color, excavation of the disc, peculiar attacks of ocular discomfort which the patient describes in various ways and which are seldom present when the oculist seeks for them; perhaps a little increase in the intraocular tension, scarcely discernible and yet constantly suggesting itself to the surgeon—the more we seek for the causes of these the greater our bewilderment. Any course of reasoning which shall bring us to satisfactory conclusions must have stable premises. These seem to be lacking in constancy in glaucoma simplex. Even the chief prop to our reasoning pedestal, that of increased tension, seems to be weakening is a constant factor in the minds of recent careful observers. This is brought out admirably in the paper. Why should we wonder that difficulty arises in selecting the proper treatment for this condition? If the enemy should emerge

from its pathological ambush and permit us to know whence it cometh and whither it proceedeth, we should know the better how to meet and combat it successfully. Unfortunately for us in our study, physiological functions are nullified and pathological anatomy fails to furnish us with a satisfactory basis for reasoning.

May we not find eventually that not any one factor but many conduce to bring about this condition? Arteries are sclerosed, the lens and ciliary body, by continuous development in hyperopic eyes through overactivity during adult life, crowd the spaces of fontana, a nervous erythism springs forth from psychic causes and, as in apoplexy, we are startled in an unsuspected moment to observe effects which we might have anticipated had our intellectual eyes been less blinded.

In treatment, shall it be a myotic or a therapeutic iridectomy? I am inclined to agree with the essayist in looking more toward temporary therapeutics than to radical surgery, not only because of the frequent unsatisfactory results from iridectomy, but because of the danger of precipitating intraocular hæmorrhage or an acute inflammatory condition upon the less active simple condition. Frequent critical notation of the course of the disease, after the proper hygienic and general therapeutic measures, have been instituted into the life of the patient, must dictate to us what is best to do in each individual case.

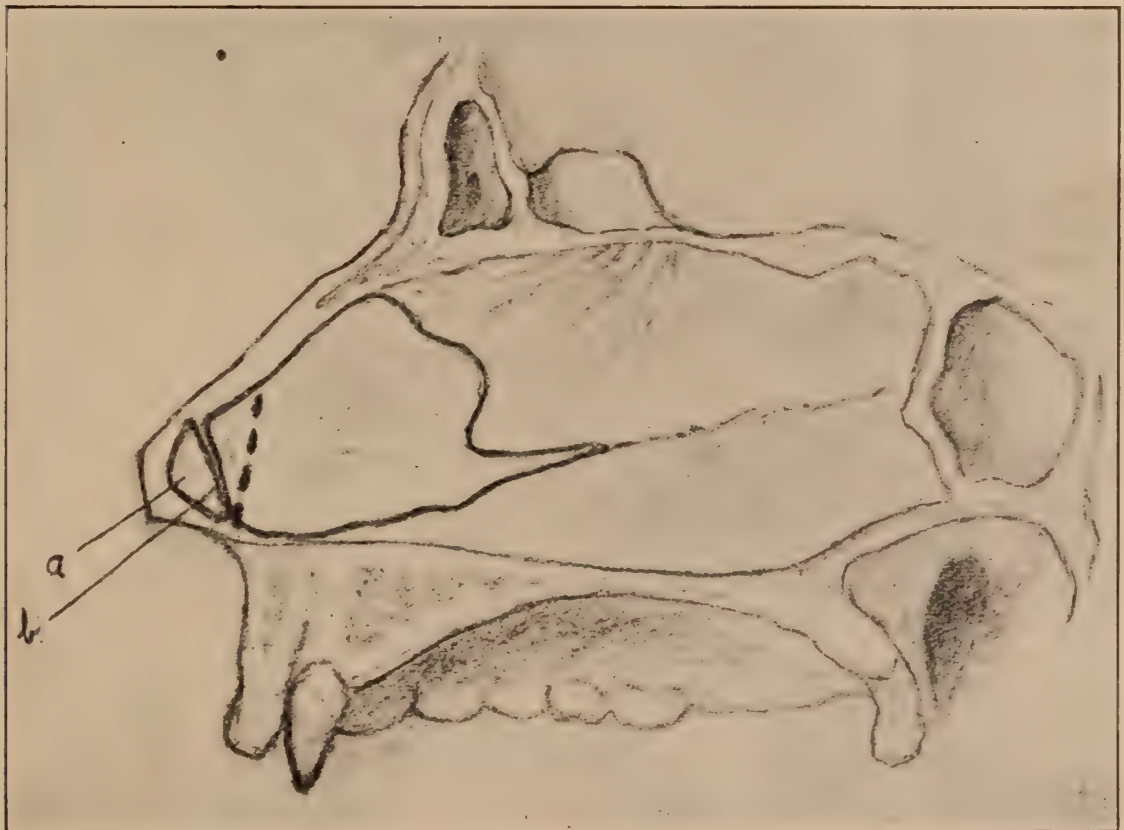
SOME POINTS ABOUT THE INITIAL INCISION IN THE SUBMUCOUS OPERATION.

DOUGLAS MACFARLAN, M. D.,

Philadelphia, Penn.

To anyone who is at all familiar with submucous work on the septum there cannot but come the early realization that the initial steps are of paramount importance. Most particularly true is this in regard to the primary incision which, though apparently simple, brings with it a train of consequences that often determine the ultimate result of the operation. The initial incision may be called the good or bad omen of the case.

In considering this feature of the operation three questions should immediately come to mind: First, the position of the incision; second, its direction, and third, its shape.



- a. Mesial crus of left lower lateral cartilage—which makes with fellow from the right side the “columnar cartilage.”
- b. The cartilaginous junction.

As to position: It is obvious that the incision should be made sufficiently far forward to include all of the deflection that it is desired to remove. This should, of course, be well determined before beginning, for once having started too far back the objectionable alternatives appear of having to make a new incision and run across the old one as a tear further back, or to attempt the well nigh impossible feat of dissecting forward. The fact is that very few deflections occur more anterior than the triangular cartilage's anterior margin; in other words, it is seldom that deflections are complicated by a dislocated columnar cartilage. So incision is rarely necessary in front of the cartilaginous junction between the columnar and triangular; this is an important fact as will presently be shown.

At this cartilaginous junction there runs from side to side, that is, from mucous membrane on the right to mucous membrane on the left, a fibrous band which acts as an obstructing wall to dissection begun anterior to this junction. Here also is that vertical "split" in the cartilaginous septum which on careless and hurried dissection brings one out on the "other side." It is on account of this tenacious fibrous partition that it is so important, when it is possible to do so, to start the initial incision just posterior to it.

Second: In regard to direction the incision of choice should be one starting high up behind the junction and inclining slightly forward as it approaches the floor, making an angle of approximately ten degrees with the vertical. It will be seen that this direction gives a slightly acute angle with the horizontal base, or floor of the nose, the apex of the angle facing anteriorly. Now as most of the difficult dissection is about the base, where the tenacious periosteum of the vomer-ridge has to be elevated, it will be seen that the forward inclination of the incision makes those horizontal tears along the base much less likely. The acute angle can best bear the strain.

Take the opposite, an incision inclining backward at its lower end; how much more readily does a difficult dissection suddenly strip into a horizontal tear along the base. This tendency to tear is in inverse proportion to the length of the incision toward the base.

Third: Finally, as to the shape, a straight cut seems the one of choice. A curve with the concavity posterior meets with the same objections as the backward inclining cut; the ends are apt to tear back. There would be scarcely any necessity for making the concavity forward.

These few suggestions I hope will find some helpful confirmation in the experience of others and I hope they will be of some profit to beginners in submucous work; they have been learned by the author at the expense of a tedious experience of mistakes.

1805 Chestnut Street.

Alypin, easily soluble in water and in alcohol, can be sterilized by boiling (one minute) and is compatible with suprarenalin preparations. It should be freshly prepared.

Europen acts like iodoform (is soluble in the same solvents) and causes no local irritation or systemic by-effects. Adheres well to mucous membranes, wounds and ulcers. Ointment, 5 per cent. or 10 per cent. in oil. Avoid iodine incompatibles.

Aristol spray, 5 per cent. or 10 per cent. in benzoinol. Adheres well; heals rapidly under its protective crusts; allays pain of burns. Insoluble in water and in glycerine; readily soluble in ether, chloroform and fixed oils. Avoid iodine incompatibles and heat when dissolving aristol in oil, vaseline or lanolin.

A new type of colored danger signal is advocated for use in industrial plants. It consists of a blue circle with a wide yellow rim. These colors have been selected because there are so many red-green blind persons.

Mending Broken Fountain-Pen Barrels.—Broken fountain-pen barrels may be mended by the use of melted shellac. This can be done by heating some dry shellac and applying it to the fracture. Do not scrape off the surplus shellac, but shape it with a heated iron. A pen with such a repair has been in use for two years.

X-ray plates, properly interpreted, are of great service in the diagnosis of mastoiditis, acute and chronic. Stereoscopy and comparison of the pictures of the two sides enhance the value of the radiographic examination.—*A. J. of S.*

SOCIETIES.

TRANSACTIONS OF MEETING OF THE PHILADELPHIA EYE, EAR, NOSE AND THROAT SOCIETY, DECEMBER 8, 1913.

PRESIDENT I. G. SHALLCROSS IN CHAIR.

L. C. Wessels presented the following case: Walter Smith, age fourteen years, colored, sent to the City Ophthalmologist because of defective vision. Dr. Wessels found him to be a high myope. Everting the lower lid of left eye the palpebral conjunctiva is covered with numerous small reddened polypoid elevations, some rounded, others flattened somewhat, and some with distinct pedicles. There is apparently no secretion. The bulbar conjunctiva is unaffected and the cornea is clear. Everting the upper lid there is nothing strikingly abnormal. There are no subjective symptoms. There has not been any glandular enlargement and no fever as far as Dr. Wessels could ascertain. Dr. Wessels presented the case for the opinion of the members of the Society.

DISCUSSION OF DR. WESSELS' CASE.

HARRY S. WEAVER: Dr. Wessels' case has the appearance of a case of Parinaud's disease which I had. The doctor has spoken of the contraindications. It looks to me like a multiple papilloma or else a tubercular condition.

GILBERT J. PALEN: I have never **seen** anything like it.

GEO. MACKENZIE: I have never seen any case like it. It looks too red for tuberculosis. There is no secretion. I would suggest that the pathologist, or the doctor, punch out one of the larger growths and stain for micro-organisms in the tissues. If it was a case of trachoma as marked as it is, it should show some pannus.

W. J. RYAN: If it was papillomata would it not bleed?

F. O. NAGLE: I never saw a case like it. I do not think it is trachoma.

DR. SPENCER: It is new to me. If it was papillomata would it have a pedicle?

DR. WESSELS: There is one symptom present which is suggestive of Parinaud's disease and that is the cockscomb appearance.

DR. SHALLCROSS: It does not look like papillomata to me. It has not the papillomatous surface. I have seen papilloma of the conjunctiva and I have seen these multiple.

DR. WEAVER: I would like to ask whether the boy has been around horses; this would help us in the diagnosis.

DR. WESSELS: I do not know.

Dr. Nagle volunteered to take up the pathological study of the case, and Dr. Wessels promised to have the boy return to the Society for observation; he would endeavor to obtain from the boy's mother a complete history of the case.

DR. NAGLE. Presentation of case of Incipient Glaucoma.

This case is of special interest because of a recent anatomical examination of a glaucomatous eye which was still relatively in an early stage of the disease and presented clinically a deep anterior chamber. I refer to an article written by Ronné, of Copenhagen, for the *Klinische Monatsblätter für Augenheilkunde*, November, 1913. Ronné is quite satisfied with his findings of sclerotic patches in the ligamentum pectinatum for the increase of tension. There are only three pathological examinations of an early simple glaucomatous condition.

In this case you will note the anterior chamber is especially deep, the pupil dilated very little, little rise in tension but the optic nerve shows a beginning simple glaucomatous excavation. I hesitated to make a diagnosis but with eserin treatment for two weeks the vision came up slightly and tension was reduced.

DR. MACKENZIE: This case brings to mind a case which was referred to me because of cataracts: The right eye was absolutely blind. The cataracts were nuclear and the nucleus presented a bulging suggesting lenticonus. The pupil was then dilated with cocain and around the periphery I found a disseminated choroiditis. In addition to this a cupping of the disc extended on the temporal side to the edge of the disc and on the nasal side practically to the edge although, it may be, there was a slight swelling at the edge of the disc. There was a parallax of the vessels as they passed over the cup. The left eye presented practically the same appearance but the cataract was developed more than the right and it was impossible even with dilatation of the pupil to get a view of the disc. I took the tension with Schiötz tonometer: in the right eye it was 25 mg., the tension in left eye was 19 mg. In left eye, which was the better eye, the vision was 15/40 with correction. Now the question was what to do in this case, because he had lost one eye. I had him report for a second examination and the findings were the same. In the meantime I put him on eserin and am awaiting results.

GILBERT J. PALEN: I am treating an old lady of about 65 years whom I first saw about ten years ago when she consulted me for refraction. Upon examination of her fundi I found to my astonishment typical glaucomatous cupping of both discs. The visual field, anterior chamber and tension were normal. I observed this case for two years with practically no change in the condition. I then lost sight of the case. About two years ago she consulted me again because of failing vision. At this time there was slight but distinct rise in tension, the pupils were larger than normal the anterior chamber however was

deep. The cuppings of the nerve were greater than when I first saw her. The visual fields were narrowed nasally. I think Dr. Nagle is right in his diagnosis. I would like to ask the members their experiences in the use of eserine.

DR. TINDALL: There is a case I have been treating for ten years. She had had an iritis and following this she had a rise in tension and the complete temporal side of the disc was glaucomatous. The nasal field is hemianopic and the case has shown no change in ten years. There is no change in the cupping.

DR. NAGLE: In the time of Dr. C. M. Thomas a case was sent from the eye clinic to the nervous clinic because of hemianopia. They returned the case and asked the doctor to examine the fields and fundi and found the case to be one of glaucoma. The hemianopia was nasal.

DR. W. J. RYAN: Dr. W. C. Posey is very enthusiastic in the use of eserine. He has collected cases for three or four years and watched them, using eserine until he finds the fields beginning to contract and then operates. He claims eserine is better than operations. He uses the sulphate of eserine in the evening and pilocarpin during the day as high as 1 to 2 per cent. and eserine $\frac{1}{4}$ gr. to oz. He reports a case in which he used eserine as strong as 1 gr. to oz. The doctor says he has some cases which have run as long as ten years on eserine treatment.

DR. NAGLE: Dr. De Schweinetz denounces eserine treatment and also the operation. He inclines to milder course—operation when the visual field becomes contracted.

DR. MACKENZIE: I do not believe there is any doubt as to the diagnosis. I do not believe you would get any picture like it if the case was not glaucoma. I have not had enough experience to pronounce concerning operation. I believe in giving them the benefit of the doubt, using eserine. I made the mistake of using eserine too strong, getting ciliary spasm. I believe operations fail at times. The Elliot operation is perhaps the most effectual operation of the day. It is perhaps too soon to say. From reports of Fox the percentage of successes is high.

DR. NAGLE: In *The Ophthalmoscope* from a translation by Don speaking of glaucoma, he calls attention to glaucomatous vertigo; a patient was thankful because he lost the vertigo. Don made careful inquiries in histories for this purpose.

DR. SHALLCROSS: Two years ago a little girl of fourteen came to me. She had had an examination of the eyes for glasses under atropin. I went over her without using a mydriatic. I could get her vision to 20/20. She had a distinct glaucoma. I had the case to see Dr. De Schweinetz. He was rather averse to advising operation but he did not advise against it. Dr. Thomas had a patient a little child of eight years in the Hahnemann Hospital Dispensary who had glaucoma.

DR. RYAN: I saw a case in Dr. Posey's clinic. The case was in a

child and was due primarily to dislocation of the lens into the vitreous. He had the case face down for four days and attempted to trap the lens but was unsuccessful. He finally spooned the lens out of the vitreous with loss of a surprisingly small amount of vitreous. I read in the literature, I cannot recall the reference, a translation from the French in which the author said a few drops of homatropin were used as an aid in the diagnosis of glaucoma. If the homatropin caused the tension to rise eserine could be used to control the action.

Percy Tindall presented two cases from the wards of Hahnemann Hospital. The first case was one of retinitis proliferans, a case of W. DeHaven Eaches, of Phoenixville. This young man fell from a trapeze and suffered hæmorrhages into the vitreous. Both eyes exhibited typical proliferating retinitis. The case is being treated by subconjunctival injections of saline solution. The second case was one of zonular cataract in a young man of 25. The right eye had been needled 25 or 30 times in Baltimore. Dr. Speakman had done a preliminary iridectomy in the left eye and proposed to do an extraction.

JOSEPH V. F. CLAY, *Sec'y*

CURRENT LITERATURE.

DEPARTMENT EDITORS.

WM. McLEAN, M. D.,
New York.

FRANK O. NAGLE, M. D.,
Philadelphia, Pa.

ARCHIV FÜR AUGENHEILKUNDE. LXXV Band. Heft 2 und 3.

Ueber Schädigungen des Auges durch Licht. C. Hess.

Untersuchungen über anaphylaktische Hornhaut entzündung, besonders über den Einfluss des Lebensalters auf ihre Verlauf. Privatdozent Dr. Kellner.

Parinaud's Konjunktivitis eine mykotische Erkrankung, hervorgerufen durch einen bis jetzt nicht beschrieben fadenförmigen Mikroorganismus Dr. F. H. Verhoeff.

Ueber die noch Schneeblindung beobachtete Rot-grün Blindheit und eine durch Blendung experimentell zu erzeugende Farben sinnstörung. Prof. W. Lohmann.

Erweiterung der vorderen Augenkammer. Dr. Erwin Hense.

Willkürliche Erzeugung und Beseitigung von vorübergehenden Blendungs Skotomen während der Fixation einer grellen Fläche. Dr. A. Vogt.

Therapeutische Erfahrungen mit Vioform. Dr. A. Dutoit.

Ueber die Wissenschaftlichen Grundlagen der Jodkalium therapie bei der Arteriosklerose. Dr. Ferdinand Flurn.

REVUE GENERALE D'OPHTALMOLOGIE. Novembre.

*Staphylôme ciliaire ablation avec conservation du globe oculaire. Genet.

*This staphyloma, increasing in size, was resected without losing a drop of vitreous, and had no operative sequences; no pains, no sign of iridocyclitis, no tenderness on pressure. It may be conducted under ethyl chloride anesthesia. The author states that the ciliary body seems to stand well intervention which is rigorously aseptic.

ANNALES DES MALADIES DE L'OREILLE, DU LARYNX, DU NEZ ET DU PHARYNX. Septembre.

I. De la laryngo-trachéotomie dans les sténoses chroniques laryngo-trachéales des adolescents et des adults. E. J. Moure et Richard.

2. Sur les symptômes de la fistula dans les affections non suppurées de l'appareil auditif. O. Beck.
3. Contribution à la laryngotomie Sargnon.
4. Surdit  bilat rale au cours d'une syphilis secondaire trait e par le salvarsan. Lombard, Bloch et Moulonguet.

Octobre.

*1. Sur un cas sp cial de papilomes multiples du conduit auditif et sur une nouvelle maladie du conduit. Citelli.

*2. Quelle est la meilleure m thode d'extirpation du larynx? Ricardo Botey.

3. L'amygdalite et la p riamygdalite linguales phlegmoneuses. Solal.

4. A propos de l' nucleation et arrachement des amygdales palatines. Ma chaise d'op ration. N. Taptas.

5. Sur un cas de perforation du tympan occasion e par un perce-oreille. M. Albert.

*1. Citelli confirms C. E. Benjamins and considers that there should be scheduled a new disease of the auditory meatus which is characterized by (a) the presence of very numerous papillomata, implanted throughout the canal, (b) a purulent discharge of very offensive odor ("sui generis") due to maceration of desquamated epithelium with fermentation of stagnant fluid among the excrescences, and (c) often by more or less deafness.

These papillomata may be observed in Europe as well as in Asia; they are pointed, taking this form especially by contagion (probably anatomical) from sessile condylomata in other parts of the body. Citelli prefers to call this disease acuminate condylomata with multiple papillomata of the external auditory canal.

This disease, which should not be so rare as modern literature would indicate, has almost always a good prognosis and its surgical treatment is relatively easy. These condylomata may originate here and extend deeper, invading the tympanum, or they assume this form in a meatus continually irritated by the discharge from a pre-existing chronic otitis media.

*2. Today the dangers of laryngectomy are lessened. Respiratory syncope is almost suppressed by local anesthesia; h morrhage is not to be feared when making a double needle ligature of all the cut vessels; extirpation of glands is more easy with double strips (plus facile

avec les doubles lambeaux) ; double pneumonia *ab ingesta* has disappeared with suture of the pharynx.

The best method of total extirpation of the larynx is that of Glück at one sitting ; exceptionally one makes two operations of it.

Botey has devised an apparatus for talking after this operation : a rubber tube connects the tracheal canula with an artificial larynx held in the hand thence a metallic tube can be insinuated to the bottom of his mouth. He stops the canula with a finger for talking and uncovers it for breathing. The sound is thus carried to the resonating chambers, more intense than if it penetrates through the nose.

Many patients talk after total laryngectomy with air which they have swallowed—a minimum quantity suffices ; they improvise a glottis with the veil of the palate and the base of the tongue.

ANNALES d'OCULISTIQUE, Novembre.

1. Les cellules du corps vitré de l'oeil humain. A. Magitot et J. Mawas.

2. Vaccinothérapie de la conjonctivite à gonocoques avec le vaccin de Ch. Nicolle et L. Blaizot, d'après vingt-six cas traités. A. Cuenod et R. Penel.

3. Les lois dioptriques d'ordre supérieure. M. Dufour.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, November, Vol. 1, No. 2.

1. Constructive medical journalism. A. S. Burdick.

2. On the advisability of lay journals having a medical editor on their editorial staffs. Edgar A. Van Der Veer.

3. Hints to medical authors. J. Madison Taylor.

4. Shifting medical conditions confronting medical journalism. Edward A. Ayers.

5. Anonymous vs. personal journalism. Charles A. Wingerter.

6. The differential diagnosis between the write-up and the honest article on a new remedy. H. Sheridan Baketel.

7. Commercialism. C. F. Taylor.

*8. Toast, "To the Ladies." George F. Butler.

*8. This wound up with :

"I have been the world over, a free, careless rover,
And have seen many maidens divine,
And I've felt it my duty whene'er I've met beauty
To cast myself down at its shrine.

But I always contended, wherever I wended,
To Petersburg, Yeddo or Rome,
That the charm of their women would seem very dim in
A strife with our dear girls at home.

"The maiden from Britain is coy as a kitten,
And her cheek is a pink in the snow.
There's a warm, healthy flush on the face of the Russ,
And the fraüleins are honest, I know ;
The Swede is perfection in simple affection
And your savings will guard like a gnome,
But of all girls, the rarest, the purest, the fairest,
Is the dear little woman at home.

"Then here's to the ladies from 'Frisco to Cadiz,
And from 'Frisco to Cadiz again,
And down with the fellow who, sober or mellow,
Refuses to cry out Amen!
I'm freely confessing they're naught but a blessing
And a Godsend wherever we roam,
But the cream of her gender I'll always contend her,
Is the dear little woman at home!

"Then, boys, fill your glasses
And drink to our lassies,
We love them wherever we roam ;
Yes, while the wine passes
Fill all of your glasses
And drink to our sweethearts at home."

The quotation marks at the beginning make us pause and ask whether Dr. Butler wrote these lines himself.

J. OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY. Nov.

1. Some striking examples of subnormal accommodative power. Samuel Theobald.
2. The tonsil with special reference to the Sluder-Ballenger operation. W. Eugene Dixon.

December.

1. The prophylaxis of ocular birth infections and venereal disease. Robert Sattler.

2. Diagnosis and treatment of meningeal complications of suppurative diseases of the temporal bone. Norwal H. Pierce.

MEDICAL REVIEW OF REVIEWS, Nov.

16. Diphtheria bacillus carriers treated with cultures of lactic acid bacilli. A. H. Sanford.

NEW YORK STATE JOURNAL OF MEDICINE. Dec.

3. Acute thyroiditis as a complication of acute tonsillitis. Clement F. Theisen.

8. A case of dacryocystitis presenting several complications, including orbital abscess and optic neuritis. Albert C. Snell.

9. The technique of the labyrinth operation. Edward B. Dench.

*10. The economic and social aspect of deafness. Harold Hays.

*11. Importance of testing the accommodation as a routine measure in refraction work. Alexander Duane.

*10. We can make the blind see and the lame walk, but what can we do for the man who is gradually losing his hearing? Asked why a deaf man always took his affliction more to heart than the blind man and was usually melancholy the former replied: "When you speak to a blind man you make him forget his trouble, when you speak to a deaf man you constantly remind him of his." A great deal more must be learned about the laws of inheritance before conclusions can be drawn about inheritance of otosclerosis and other pathological conditions. But we can and should warn deaf mutes, and also warn persons with otosclerosis, from intermarrying.

As the hearing becomes progressively worse the patient is thrown out of work or must accept less lucrative situations. What is being done to help such?

There are various employments open to the deaf man if society would only take a more lenient attitude to him: book-cataloguing, book-keeping, clerical work, such as addressing letters, and for the less educated manual labor could be done by the deaf man as well, provided the prejudice of the employer could be overcome. The formation of employment bureaus for the deaf in the large cities, might

save enough by keeping these people from appealing to public charity to well repay the effort.

*II. Dr. Duane made a long series of investigations to determine the normal value of the accommodation at any given age: full correction was applied, the eye not under observation screened and a fine test object carried toward the eye along a Prince's rule; the highest rather than the overage reading was taken. Homatropin cycloplegia varies in time (for maximum) and degree. He found the following:

NORMAL VALUES OF ACCOMMODATIVE POWER.

Accommodation is given in diopters and tenths, near points measured from the eye's anterior focus, *i. e.*, from a point 13 mm. in front of the cornea.

<i>Age.</i>	<i>Lower Limit in normal cases.</i>	<i>Mean value.</i>	<i>Usual upper limit.</i>	<i>Extreme upper limit.</i>
8	11.7	13.8	15.4	16.4
9	11.6	13.6	15.2	16.2
10	11.4	13.4	15.0	16.0
11	11.2	13.3	14.9	15.8
12	11.1	13.1	14.7	15.6
13	10.9	12.9	14.5	15.4
14	10.8	12.7	14.3	15.3
15	10.7	12.6	14.1	15.2
16	10.5	12.4	13.9	14.9
17	10.3	12.2	13.7	14.6
18	10.1	11.9	13.5	14.4
19	9.9	11.7	13.2	14.2
20	9.7	11.5	13.0	14.0
21	9.4	11.2	12.8	13.7
22	9.2	10.9	12.6	13.5
23	8.9	10.6	12.3	13.2
24	8.7	10.4	12.1	13.0
25	8.4	10.2	11.8	12.7
26	8.2	9.9	11.6	12.4
27	7.9	9.6	11.3	12.1
28	7.6	9.4	11.1	11.8
29	7.3	9.2	10.7	11.5

30	7.1	8.9	10.4	11.2
31	6.7	8.6	10.2	10.8
32	6.4	8.3	9.9	10.5
33	6.1	8.0	9.6	10.2
34	5.9	7.7	9.2	9.9
35	5.6	7.3	8.9	9.6
36	5.3	7.1	8.6	9.4
37	4.9	6.8	8.2	8.9
38	4.6	6.5	7.9	8.6
39	4.3	6.2	7.6	8.2
40	4.0	5.9	7.2	7.8
41	3.6	5.4	6.8	7.5
42	3.2	5.0	6.4	7.0
43	2.8	4.6	5.9	6.5
44	2.5	4.2	5.5	6.1
45	2.2	3.7	5.2	5.6
46	1.9	3.3	4.8	5.1
47	1.7	2.8	4.3	4.5
48	1.5	2.5	3.9	4.0
49	1.3	2.2	3.4	3.4
50	1.2	2.0	3.0	3.0
51	1.1	1.8	2.6	2.6
52	1.0	1.6	2.3	2.3
53	0.9	1.5	2.1	2.1
54	0.9	1.4	2.0	2.0
55	0.8	1.3	1.9	1.9
56	0.8	1.2	1.8	1.8
57	0.8	1.2	1.7	1.7
58	0.7	1.2	1.7	1.7
59	0.7	1.1	1.6	1.6
60				
to	0.7	1.1	1.5	1.5
68				

THE AMERICAN JOURNAL OF OPHTHALMOLOGY. November.

*1. A rare case of bilateral optic neuritis. C. Barch.

2. A new method of delivering the lens in its capsule. A. E. Ewing.

*1. The case is of interest because of the total loss of sight and

recovery of nearly normal vision. The patient gives a hazy history of affected vision during a pregnancy some years previous. The vision had depreciated rapidly and was right eye, hand movements, left eye blind. No predisposing factor could be determined except a delayed menstruation.

Treatment was invoked to bring on menstruation and soon after the flow was started the vision improved. Six weeks after the first examination the vision had returned to r. e. 6/7, l. e. 6/6.

Through an error the menstrual discharges were not examined for a possible fetus.

J. OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY. November.

1. Some striking examples of subnormal accommodative power. S. Theobald.
2. The tonsil with special reference to the Sluder-Ballenger operation. W. E. Dixon.

J. OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY. December.

1. The prophylaxis of ocular birth infections and venereal disease. R. Sattler.
2. Diagnosis and treatment of meningeal complications of suppurative diseases of the temporal bone. N. H. Pierce.

THE OPHTHALMIC RECORD. December.

1. Commission on the conservation of vision. Report of the chairman. W. C. Posey.
2. The visual requirements in railway and traction service; and the protection of the eyes of workmen in large shops. Burton Chance.
3. Ophthalmia neonatorum. T. B. Holloway.

ARCHIVES OF OPHTHALMOLOGY. January.

- *1. Enucleation with insertion of hollow gold or glass sphere. A. Greenwood.
2. On some practical points connected with the operative treatment of glaucoma. G. L. Johnson.
- *3. The absence of cicatrization of the iris after operation or injury. M. McBurney.
- *4. A case of sarcoma of the lacrimal sac. T. N. Butler.
5. Metal in the eye after magnet extraction. A. F. Mattise.
6. New aspects of gout and their relation to gouty diseases of the eye. L. Lichtwitz.

7. Concerning diseases of the ocular nerves in diabetes mellitus. M. Hoffman.

8. Increased intraocular tension due to burns and corrosive injuries of the eye. R. Kuemmell.

9. Intraocular tension in passive and active motion of the eyeball. R. Lederer.

*1. The writer makes a plea for the more general adoption of the insertion of a glass ball in the capsule of Tenon. He uses glass or gold spheres not smaller than 18 nor larger than 24 mm. in diameter. The average size he uses is 22 mm. During the past 14 years of the author's work only one sphere has been extruded in 31 cases.

The usual cause for failure is the use of a ball which is too small. After the eye has been removed and a glass ball as large as possible is inserted, the capsule of Tenon should be made to cover the ball completely. Next suture the recti muscle tendons together.

The conjunctiva should be sutured with interrupted sutures placed at right angles to the palpebral fissure.

*3. Dr. McBurney records his microscopical findings of several specimens examined in Prof. Fuchs' clinic. He reports an absence of cicatricial tissue in wounded and incised irides where hæmorrhage or infection has not occurred.

*4. Sarcoma of the lacrimal sac is a rare condition. A diagnosis of tuberculous disease of the lacrimal sac with implication of the surrounding tissues was the diagnosis given to the condition when first seen. The treatment advised was excision of the sac with curettement of the tuberculous granulations. During the operation a tumor mass was removed, which, later, was diagnosed as small, round celled sarcoma. About one month later there were signs of recurrence in the orbit. Later a radical operation on the orbit was made, but another recurrence presented. It appeared in the antrum, the palate then to the right side of the face.

The interest in this case lies in the fact that the tumor showed a constant tendency to disappear in one situation and reappear in another close to the original site.

It started in the left lacrimal sac, spread to the left orbit, then to the left antrum and the left palate. Then it reached the right side of the palate, invaded the right antrum, spread outward onto the right side of the face and ultimately ended in the right orbit.

THE OPHTHALMIC REVIEW. January.

1. The luetin test for syphilis and some results. S. H. Browning.
2. Note on Elliott's operation. A. H. Griffith.

THE OPHTHALMOSCOPE. November.

*1. On some of the causes of failure after Elliott's sclerocorneal trephining. Sydney Stephenson.

2. Some commonplaces with regard to plastic operations. N. C. Ridley.

3. The pathogenesis of sympathetic ophthalmitis. F. Deutschmann.

4. Latent convergence or divergence with addendum. E. E. Maddox and A. W. Stirling.

*1. Sydney Stephenson reviews the literature of Elliott's sclerocorneal trephine and quotes some important data. Four years ago Dr. Elliott first published an account of his operation and now it is on trial in all the habitable globe.

The view of those well qualified to judge appears to be that it embodies better than any known procedure, those points now generally believed to be essential for the surgical cure of glaucoma.

Dr. Elliott gives 4.6 per cent. of failures among upwards of 900 operations. Moorfield's Hospital, as quoted by G. F. Wallis, yields 9.8 per cent. failure in 91 cases of chronic primary glaucoma (any case that developed + tension within a year was counted as a failure).

Elliott, in enumerating the reasons for failure, gave: the trephine hole may become occluded by proliferation of connective tissue derived from the episclera or uvea; also a blocking may occur from iris, ciliary body, suspensory ligament, lens or vitreous. Furthermore, he doubts if the aperture ever becomes plugged provided there has been no intraocular hæmorrhage, or the surgeon has not dragged uveal tissue into the wound while operating.

Infections, early and late, have been given as a cause of failure, although Elliott did not have an infection in his report of over 900 cases. Kuhnt reports a case of late infection where 54 days after the last operation an inflammation of the conjunctiva occurred in both eyes and 12 days later there was a suppuration.

The pathological report and description is given, in the paper, of four enucleated eyes following the Elliott operation, where failure occurred and an enucleation became necessary.

THE OPHTHALMOSCOPE. December.

1. Infarction of the posterior ciliary arteries. George Coats.
2. Hyaline bodies at the optic disc in a case of retinitis pigmentosa. G. H. Oliver.
3. Recent investigations dealing with inherited syphilis of the eye. J. I. Gersheimer.
4. The visual fields in coal miner's nystagmus. B. Cridland.
5. Direct ophthalmoscopic examination with indirect vision and illumination. J. Burden-Cooper.

THE LARYNGOSCOPE. November.

1. Report of eight cases of purulent meningitis operated upon by the Haines method. Postmortem findings. E. W. Day.
2. Congenital absence of both ears. R. C. Lynch.
3. Edelman's acoustics for otologists. J. Holinger.
4. Cavernous sinus thrombosis. Report of a case. R. McKinney.
5. Unusual case of Menière's disease associated with nephritis. A. L. Guthrie.
6. Untoward results following the external operation on the frontal sinus. A critical review of 20 cases. R. W. Skillern.
7. Empyema of the frontal sinus with exposed dura cured by obliteration of the sinus. T. C. Worthington.
8. Nerve trunk anesthesia and carbolization in nasal surgery. G. Sluder.
9. Intratracheal anesthesia from the standpoint of the nose, throat and oral surgeon, with a description of a new instrument for catheterizing the trachea. H. H. Janeway.
10. The Kuhn method of peroral narcosis. F. Hazelhurst, Jr.

ANNALES DES MALADIES DE L'OREILLE, DU LARYNX, DU NEZ ET DU PHARYNX, Novembre, 1913.

1. Contribution nouvelle à l'étude des polypes choanaux solitaires des cavités périmasales. Prof. Ino. Kubo.
2. L'anesthésie locale dans la laryngectomie. Paul Gibert.
3. Méningites et états méningés aseptiques d'origine otique. Raymond Passot.

KLINISCHE MONATSBLÄTTER FÜR AUGENHEILKUNDE.**December**

- *I. Salvarsan gegen die sympathische Augenentzündung. Prof. Dr. A. Siegrist.

2. Ueber einen Fall von Ziliar und Sehnervengumma nach Salvarsaninjection. Dr. J. Matsukawa.
3. Kann idiopathische Netzhautablösung durch körperliche Anstrengung entstehen? Prof. Dr. G. Pfatz.
4. Ein weiterer Beitrag zum Verhaltung der Linse nach Eisen-splitter Verletzung. Dr. R. Mellinghoff.
5. Ein eigenartiger Iris Befund angeborene Spaltung in zwei Blätter. Dr. E. Weigmann.
6. Hemianopisches Ringskatom. Prof. Axenfeld.
7. Sechs Fälle der Komplizierten hereditär familiären opticus atrophie des Kindes alters. Dr. S. Takashima.
8. Beiträge zur Diagnose und zur operativen Therapie der Hypophysen Geschwulste. Dr. Julius Fejer.
9. Flimmerscptom und vasomotorische Krampf Erscheinungen an beiden Händen. Dr. Am. Pöllot.
10. Ein Fall von akuter Ischämie der Retina mit sehr deutlichem Hervortreten der gelben Farbe der Macula Lutea. Dr. Lothup Anderson.

*1. On November 22, 1910, Prof. D. A. Siegrist presented before an ophthalmological meeting in Berlin a case of sympathetic ophthalmia favorably influenced by an injection of salvarsan. Siegrist is a firm believer in the relationship of syphilis to sympathetic ophthalmia and cites mercury as the best remedy we possess as a therapeutic agent to support his view.

A detailed report of the clinical and pathological findings of an undoubted case of sympathetic ophthalmia are given. Vision was reduced to 0.15 in the remaining eye. Three days after an injection of 0.3 g. salvarsan, vision returned to 0.9 and remained so. (*Archiv für Augenheilkunde*, Bd. 68, page 197, 1911.)

The second case Siegrist reports was a typical case of sympathetic ophthalmia, which affected the second eye eight days after enucleation of the first eye. After two injections of salvarsan very prompt improvement took place, vision returning to 0.8 from light perception. The third case reported was one of Dr. Quint, of Solingen. Sympathetic ophthalmia occurred in a boy of 20, as a result of cataract extraction (congenital calcareous cataract). Six weeks later a choroiditis plastica of the severest form occurred. Vision was reduced to light perception. Two injections of salvarsan, 0.5, were given and im-

mediate improvement with full vision resulted. The results in these cases were so prompt that Siegrist concludes it was not a case of coincidence. Therefore his views are entirely contrary to those of Flemming, who reported unfavorable results in one case of sympathetic ophthalmia treated with salvarsan.

REVUE GENERALE d' OPTHALMOLOGIE, Decembre.

*1. De la biiridectomie ou iridectomie double supérieure puis inférieure combinée dans les cataractes adhérentes de l'uvéite chronique. le Prof. H. Truc.

2. Un trépan scléral. le Prof. Rollet.

*1. In a number of cases, for several years, Truc has made two iridectomies several months apart: the first above, large and peripheral re-establishes the interrupted communication between the chambers of the eye, moderates the uveal inflammation and guards against glaucoma; then the inferior iridectomy, equally large, and peripheral is combined with and facilitates the more or less complete extraction of the lens and the easy absorption of its remnants. This leaves a median, vertical, large hour-glass pupil, with the iris reduced to two small lateral segments. This pupil is less liable to inflammatory occlusion with consecutive atrophy of the globe and is more favorable for some vision.

This double iridectomy is also applicable for other adherent cataracts and finally in some thick secondary cataracts with pupillary occlusion.

MEDICAL REVIEW OF REVIEWS. January.

*Ulceromembranous angina (Vincent's), with cases and treatment. Charles Clyde Sutter.

*"This tonsillar and pharyngeal affection is treated more frequently without a correct diagnosis than any other mouth infection. It is most frequently confounded with syphilis and diphtheria. If in addition to cultures, smears were made from the ulceration revealing the fusiform bacilli and spirella of Vincent a positive diagnosis would many times be made.

This paper is worth reading because the majority of the latest textbooks of medicine fail to mention this infection or devote only a few lines to it, while in the medical journals most of the articles on this subject give reports of unusual rather than of usual cases.

The failure of many laryngologists and pediatricists to recognize it is due to their inattention to its clinical features and because of the mildness of some of the symptoms in many cases.

QUARTERLY OF THE FEDERATION OF STATE MEDICAL BOARDS**January, 1914**

1. Examinations, examiners and examinees. Sir William Osler.
 2. The Study of Medicine fifty years ago and today. Albert Van der Veer.
 3. Hospitals as educational institutions. Thomas Howell.
 4. The enforcement of adequate premedical requirements, and a hospital year by the State Boards for medical registration. Channing Frothingham, Jr.
 5. Preliminary training for entrance into medical schools. Kendrick C. Babcock.
 6. The function of the examining boards. Abraham Flexner.
- Editorials.
Rules in regard to failures.
Partial examination.
Calendar for examinations, 1914.
Notes.
Excerpts.
Forthcoming meeting.

ABSTRACTS.

Formaldehyde as an Escharotic.—Good results from local application of formaldehyde are reported by R. L. Hammond in verruca, clavus, callositas, nævus pigmentosus and cornu cutaneum. Formaldehyde of 40 per cent. aqueous solution was invariably used, undiluted; a wooden toothpick was dipped in it and the adherent drop applied to the surface of the lesion, every three or six hours for two or three days. Care was taken not to touch the normal skin with the agent.

After several days in the case of small excrescences, and in about a week with the larger ones, an application having been made three times daily, it was found that pain was experienced, devitalization of the tissue occurred, and, upon discontinuance of the application the growths desiccated. After exfoliation the under surface or dermal layer appeared free from the blemish or, if not, another application or two secured the desired result.

If an open sore is produced a healing ointment of zinc oxide or simple cerate is usually all that is needed. In extensive callosities the remedy can be applied with a brush 3 times daily for several days, or until the surface becomes sensitive: then the applications should be stopped and the parts allowed to dry, when by soaking the epidermis with warm water it can be rubbed off. This process can be repeated until a cure is effected.

In cornu cutaneum the horny growth should be clipped away as near to the dermal attachment as possible and the agent then applied as often and thoroughly as it can be with comfort. Formaldehyde exerts a local anesthetic effect; but this does not protect against its own irritating action. Large and painful warts were however removed by its aid with much less pain than attends their removal by other agents, such as nitric acid, zinc sulphate, etc.—*American Medicine*, July, 1912.

Complications that May Arise During or After Operation for Correction of Septal Deviation.—With *cocain*, mydriasis, pale face, trembling of the extremities, and even the patient faints. Alcoholics develop loquacity and boastfulness, combined with fear. If the patient is placed prone and reassured the symptoms pass over promptly. Amyl nitrate is perhaps the best physiologic antidote.

With *epinephrin* the patient complains of a throbbing sensation in the whole body, but particularly in the head and chest; the face becomes cyanotic, the pulse rapid and of high tension. These symptoms pass promptly as a rule.

Air embolism may occur from the injection of Schleich's solution, or when a defective syringe was used (the piston fitted too loosely in the barrel).

Improper primary incision may cause delay.

Adhesions may be a cause for delay, and for a perforation of the mucous membrane. The best way to prevent this embarrassment is thorough infiltration of the mucous membrane before beginning the operation.

Old fracture with overlapping edges of the cartilage may be responsible for a perforation (with the raspatory) of the mucous membrane of the opposite side. Proper infiltration with no undue force is the best safeguard.

Perforation may be unavoidable occasionally. Such are not so serious when recognized, for when unrecognized the operator is likely to enlarge the perforation still more. Other causes are recklessness and lack of experience. One or two buttonholes in the mucous membranes need cause no anxiety, providing two of them do not occur at corresponding points of the two sides.

To replace the flaps before applying the dressing have the patient blow the nose forcefully, first one side, then the other.

The *breaking off of a piece of the chisel* in thick bone may rarely occur in a low broad spur. To avoid it, remove smaller pieces at a time, rather than attempt the removal of a larger piece.

Excessive *bleeding during the operation* may be a complication of sufficient importance to cause alarm and prompt some rhinologists to abandon further efforts at the operation. It is usually venous, and occurs during operation low down and in front; therefore, it is the writer's practice to attack this quarter after all other parts have been taken care of. Secondary bleeding he has never witnessed and cannot speak of from personal experience.

Unintentional fracture of the septum near the posterior extremity may, in spite of otherwise excellent work, prevent the operator from obtaining as satisfactory results as had been anticipated. It may be reset into a more favorable position some days after the operation.

Faulty packing of the nose may cause a curling of the edge of a torn flap in on itself, resulting in undue reaction and thickening; it delays recovery.

Faulty packing may result in getting a piece of gauze through a buttonhole and between the layers of the mucous membrane of the two sides and thus prevent prompt healing. Occasionally a piece of the gauze may work loose posteriorly (aided by hawking of the patient) and dangle into the pharynx, even so far as to touch the epiglottis, causing gagging and fits of coughing. It is my practice in packing the nose to use short strips of one inch gauze, so that in the event of a piece working loose posteriorly it can be removed without disturbing the whole dressing.

A mild *infection* of the wound may occasionally occur, especially where a pack is used. Severe infection shows intense swelling and redness of the whole membrane with fairly profuse, thin discharge, the

whole condition lasting two or three weeks. Accessory sinus disease with the pack in the nose is, probably, as frequent a cause of infection of the septum after the operation as any other. One of the causes of severe reaction after the operation is combining of the septum operation with one or more operations on the turbinates or accessory sinuses. Diseased tonsils or adenoids are not to be forgotten as possible causes for infection after the septum operation.

Depression or *flattening of the nose* occurs rarely after the septum operation. Its two most important causes are a too liberal removal of the cartilage anteriorly and infections following the operation.

Hematoma usually occurs high up and anteriorly. It is manifested by a bilateral circumscribed swelling of the septum. It may be prevented, more or less, by proper packing.

Erysipelas is a complication about as prone to follow the septum operation as any other operation. One such case, after his operation sat and conversed in the waiting-room of a clinic with another patient affected with erysipelas.

Acute *empyema* of one or more of the accessory sinuses may follow. Some of the cases suspected as being empyema may have been nothing more than acute recurrences of unrecognized chronic empyema. It is well, therefore, in suspected cases of empyema, to attempt its cure before operating on the septum, unless there are vital indications to the contrary.—*G. W. Mackenzie, J. A. M. A.*

Spinal Concussion for Asthma.—Abrams, of San Francisco, overcomes asthma by concussion of the vertebræ. In the cases consequent upon bronchial spasm he concusses the seventh cervical spine, or applies there the sinusoidal current. In other cases he concusses the eleventh thoracic spine, or the third and fourth thoracic spines, or applies the sinusoidal current at these points. In two cases of my own at the Philadelphia General Hospital I had Abrams demonstrate his method to some friends who accompanied us through the wards. In the bronchial spasm case he produced a paroxysm by concussing the thoracic spine and overcame it by concussing the cervical spine. In the other case the paroxysm was produced by concussing the seventh cervical spine and overcame by concussing the eleventh thoracic spine. The demonstration was made in the presence of two internes and four visitors, all experienced physicians, and the two patients, in different wards, did not know what was expected of them.—*Solis Cohen, Critic and Guide, Jan., 1913.*

The Symptomatic Value of Corkscrew Vessels of the Retina.—Dor, of Lyons, suggests that this, instead of being a local congenital anomaly, may be an acquired anomaly indicative of an exaggerated tortuosity of the vessels throughout the body. The condition is a rare one. There is never any sign of varicosity, no adjacent edema of the retina, nor

change in the appearance of the blood. No observer has ever seen this condition develop in a fundus which formerly presented a normal appearance. In arteriovenous aneurism corkscrewing has been seen, but this was limited to a branch of the central vein. In three cases of Wagner's disease (polycythemia megalosplenica) there was pronounced tortuosity of the veins, and a lesser one of the arteries. In leucocythemia a similar tortuosity has been observed. Levin has found the composition of the blood normal in a case of exaggerated tortuosity, and the only explanation to offer is that a blood anomaly has existed and subsided, leaving the consequent tortuosity of the vessels as a permanent change. Levin thinks there may be some connection between tortuosity and hypermetropia, but this is disproved by Gloorn observing a typical case of tortuosity in a myope, and Dor in an astigmatic subject. The subjective symptoms are very slight; the subject complains of temporary obscurations, he cannot stand prolonged use of the eyes, sometimes there seems to be a pressure in the eyes, but all in all there is little discomfort and the visual acuity is generally good. This would seem to prove that there cannot be any serious concomitant nervous trouble. In one case Wiebrand observed facial tic, insomnia and cardiac palpitation.—*La Clinique Ophtalmologique*.

Cyst of the Iris Treated by Electrolysis.—A woman had received a blow in the eye from which there was no immediate trouble; eighteen months later pain and photophobia set in, which were not diminished by treatment. In the lower part of the iris, and pushing it backwards, was a small translucent tumor of the size of a pea. With a small irido-platinum needle attached to the positive pole the tumor was transfixed and a current of four milliamperes passed for two minutes. The cyst emptied itself and the iris returned to its normal position. The next day the pain had disappeared, and the iris was normal. Atropin was prescribed. A week later the pain was still absent, the upper part of the pupil dilated, less in the lower part. Three months later the condition was still the same.—*La Clin. Ophtalmologique*.

Alypin, equal in anesthetic effect with cocain but less poisonous, is easily absorbed by mucous membranes. Causes no mydriasis, nor disturbance of accommodation nor of increased intraocular pressure. But it causes slight transient hyperæmia and is incompatible with silver nitrate. Hence it is well to use alypin nitrate if silver nitrate is to be applied. **Alypin nitrate**, like alypin, corresponds closely with cocain in solubility and strength of solutions.

BOOK REVIEWS.

THE INTERPRETATION OF DREAMS. By DR. SIGMUND FREUD, LL. D.
Authorized translation of third edition, with introduction, by A. A.
BRILL, Ph. B., M. D.

In our notice of this book last September a typographical error omitted the following: Linen, $8\frac{5}{8}'' \times 5\frac{1}{2}'' \times 1\frac{5}{8}''$. 510 pages. \$4.00, net. New York. The MacMillan Co. 1913.

DISEASES OF THE KIDNEYS AND NERVOUS SYSTEM. By A. L. BLACKWOOD, B. S., M. D., Professor of Clinical Medicine and Materia Medica, Hahnemann Medical College and Hospital, Chicago; Attending Physician, Hahnemann and South Chicago Hospitals. Author of *Materia Medica*, etc. 346 pages, $7\frac{3}{4} \times 5\frac{3}{4}$. Cloth. \$1.50. Postage, 9 cents. Philadelphia. Boericke & Tafel. 1913.

This eminently practical hand-book, the sixth and final part of the author's work on Internal Medicine, is written for the student and general practitioner, presenting his own observations and leaving theories and unproven matters for the larger works. Nothing has been lost, but much has been gained by giving only a few of the more important indications for the homœopathic remedies—the reader is told to study them. A glance at the arrangement and diction reveals the author as an experienced teacher. The forty pages of double column index is not completed enough: *e. g.*, it should mention cerebral hæmorrhage which is treated of only in a tabular comparison with cerebral embolism and cerebral thrombosis.

The Journal of Ophthalmology, Otology and Laryngology

Vol. XX

Lancaster, Pa., and New York, March, 1914

No. 3

EDITORIAL.

“WAS MANN GETHAN HAT KANN MANN THUN.”

THE writer heard Dr. E. B. Nash tell of the real beginning of his career as a notable prescriber and author: An ordinary village doctor for some years, he once had occasion to take a patient to Adolf Lippe. The great success of that remarkable man in this, as in other cases, led to introspection and query: “If Lippe can prescribe so well why can not I? I will.” Whereupon he devoted himself to study and apply the homœopathic materia medica and to record carefully his therapeutic experiences, thus fitting himself to give to the public a series of “Leaders,” with the first of which he “awoke to find himself famous.”

Last November the homœopathic school of medicine lost one of its strongest, most valuable, pillars and the community one of its most esteemed and efficient members—James H. McClelland. It is a privilege to add a testimonial, however feeble, to his charming personality, his eminent services for homœopathy, for the community, for humanity, as well as to his skill as a surgeon and a homœopathic prescriber. We are proud and, we trust, better to have known him personally.

“None knew him but to love him,
None named him but to praise.”

Among the numerous valuable lessons of his life let us emphasize here the fact that he found it both possible and advantageous to combine medicinal—homœopathic—with mechanical therapeutics in his specialty—surgery.

Homœopathic prescribing involves study, but well repays it. We specialists in the eye, ear, nose and throat are too apt to drop into the

routine treatments practiced by our authorities who are allopathic in their medicinal therapeutics.

We all need encouragement and help—some more than others—and this can be given by employing the resources of our *materia medica* and by *reporting our results*—failures as well as successes.

It is incumbent upon us to do this because: (a) our diagnosis carries more weight than will that of the general practitioner; and (b) we owe as much to those who developed homœopathic therapeutics, it is for us to bring the symptomatology up to date.

When reading or hearing of a successful homœopathic prescription let each of us determine not to be outdone in this line.

CHRONIC ETHMOID DISEASE AND ITS RELATION TO ASTHMA.

BURTON HASELTINE, M. D.,

Chicago, Ill.

I AM not well acquainted with the attitude of the profession in general toward this question, but my own attitude was forced upon me by observations made in the course of a considerable experience. Repeated observations and clinical experience of an unlooked for character have forced me to the conclusion that there is a very intimate relation between chronic ethmoid disease and asthma. Many years ago I noticed this and began to talk about it but it did not receive much attention from those to whom I mentioned it. There are many cases of chronic asthma that are practically incurable and the only relief that they can get is through the employment of anodynes or narcotics. Few doctors like to have these discouraging cases come to them, whether they are specialists or general practitioners. When I broached my ideas as to the relation existing between asthma and chronic ethmoid disease to a specialist he generally said, "Oh, yes, but there is nothing particularly new about it;" yet I never found that he could cure a chronic case of asthma. The general practitioners to whom I spoke would say as a rule, "Well, we do not need that, we cure our asthma cases;" but I never saw a cured case, and I have looked quite diligently.

I want to bring forward the idea, from my own experience, that there is an intimate causal or clinical relationship between this intractable disease and a diseased condition of the ethmoids and that the relief of the ethmoidal condition will often have a potent effect in relieving if not curing the asthma.

Bronchial asthma does not have a very definite well defined pathological lesion, the same in one case as in another. The condition is ill defined and various in various cases. It is obscure. The latest teaching that I have seen is that it is an anaphylaxis to certain albuminous toxins, and treatment has been instituted upon this theory but nothing of real value has been accomplished. In my own personal experience a much larger percentage of asthmatic cases than fifty

has been demonstrated to have a pathological condition in the nose, especially in the ethmoid region. The relief that I have been able to give to patients, both acute and chronic, where this pathological condition has been found to exist has been one of the most gratifying things that I have ever experienced in my practice.

The form of pathology varies, although they are mostly of a chronic inflammatory type. When we consider the nose as the gateway to the respiratory organs and the close relationship that exists between this region supplied by the fifth nerve and the thoracic viscera through the vagus nerve, it seems only reasonable to think that such should be the case. Irritations of the nasal cavity normally produce some disturbance of the function of respiration and of the heart action. Any kind of pathological condition that produces a continuous nasal irritation will cause more or less difficulty in the respiratory function but the particular trouble of which I am speaking may be slight and easily overlooked. To be appreciated it must be especially looked for and the point is that every case of asthma must receive a most thorough nasal examination before we have done full justice to the patient. Abnormalities in the ethmoid region should be especially looked for.

We may find deformities of the septum front or back to be corrected, even without extensive inflammatory pathology and we not infrequently find polypoid degeneration of the tissues accompanied by asthma. The asthma will generally be relieved if they are removed and will return if the polypoid growths come back, as they are inclined to do. It was an occurrence of this kind that first induced me to look into the subject. Abnormal conditions may exist for a long time before the patient recognizes them by the symptom of obstruction.

My practice is, and my advice to others is, to make something more than ordinary examination with a nasal speculum in asthmatic cases. When we come across such we should shrink the tissues of the nose until we can explore every part; inspect the floor, the septum, the attic—every part until we are satisfied that the state of the cavity is sound. In this way only are we able to find small polypi.

Chronic necrosing ethmoiditis is less commonly associated with asthma than are other forms of ethmoid disease. In this connection I want to speak a word of commendation for Dr. Dowling's work which I think I have not studied or used as much as I should have done. It is probable that the Dowling reaction will reveal more in this particular condition than will a thorough examination such as I speak

of. I think we have not appreciated the full value of his procedure nor have I used it as much as I intend to in the future.

As to prognosis, my own practice is to be extremely cautious in making promises. In determining the advisability of operating I want to observe the patient for quite a period of time, I want to be convinced that it is a case of asthma, I want to be assured that the usual therapeutic measures have been used without effect and finally I want to know the exact condition of all parts of the nasal cavities before I am ready to advise surgical treatment. I know that the Dowling reaction and free drainage will relieve, but to my mind they are not radically curative. Where there are little or no inflammatory degenerations the correction of the deformities is enough to cure, provided this be well and thoroughly done. Once having made up your mind to try surgery for the relief of the asthma, the most thorough and radical surgery must be done rather than any half way measures.

The only operation that is of benefit is one that removes the deformities entirely and restores plenty of breathing space. If any infected areas are left their tendency is to inflame and to degenerate into polypoid growths. The amount of surgery has to be judged by what is encountered, the safe rule to follow is to remove all obstructions and to secure free drainage. In chronic necrosing ethmoiditis nothing but the most radical operation is of any benefit.

Cases so selected and so operated upon have never failed of relief; the longest time that I have followed a cause up and had it under observation is eight years. I have had only two cases of recurrence, though of course I have not had an enormous number of cases. The two cases in which the asthma recurred were ones in which only one side of the nose had been operated upon, and there was in each of these cases some pathological condition on the unoperated side that was responsible for the recurrence. As I said, the results have been very gratifying to me. I do not know how much of this is new or whether it is interesting to you but I am particularly anxious to hear the subject discussed.

122 S. Michigan Avenue.

DISCUSSION.

J. IVIMEY DOWLING: After reading the paper submitted to me, I was impressed by the fact that asthma might be caused not alone by disease of the ethmoids, but by any disease of the nose or sinuses. I considered chiefly the best mode of effecting drainage of the ethmoid

cells in such cases, for this will afford drainage to the other sinuses. My idea is not to attack the ethmoid directly, but to consider what will afford the best drainage of the accessory sinuses; sometimes a middle turbinectomy is required, sometimes a submucous resection or Holmes' operation of slicing off the lower edge of the inferior turbinated so that in healing it contracts the mucous membrane and gives good drainage throughout.

I did not say anything about the argyrol because I do not wish to gain the reputation of recommending that procedure as a panacea for all the ailments of humanity. I was interested in Dr. Foster's remark that he had taken radiographs of the sinuses after healing and found them clear. I have not taken any radiographs for that purpose, but I have transilluminated a great many cases before and after treatments with the tampons and found them change from black to clear showing conclusively that this treatment gives good drainage.

BURTON HASELTINE: I would like to ask the doctor to tell us his theory as to just how nasal disease produces asthma: what is its *modus operandi*?

DR. DOWLING: I feel like the philosopher who said that there were many things that he knew but he did not always have to understand them.

PRESIDENT SHEPARD: Here we have a subject presented that needs the efforts of the members of this society to elucidate. Here is something of interest and practical use that needs further investigation. The connection of the nerves of the nose with those of respiration can be found out only by patient investigation. I trust that we may have this rich subject of nasal reflexes brought forth in greater fulness and light another year.

HAROLD A. FOSTER: Since my attention was called to this subject by Dr. Haseltine some years ago I have come across two or three cases which verified the correctness of his observations. One was an old lady of sixty-five with chronic asthma: she went south every year to avoid the asthmatic symptoms, which were complicated by some heart trouble. She was operated on and care was taken to give her plenty of free breathing space. The result was a complete cure. Then there was another old lady with a similar state of affairs and a similar success. I had a third similar result on a man.

PRESIDENT SHEPARD: Did these cases have real cardiac lesions?

DR. FOSTER: The first did, as to the other two I am not positive. All of them had decided bronchial asthma.

L. E. HETRICK: The question in my mind is whether we should limit this discussion to the subject of ethmoid disease as a cause of asthma. I have seen several cases of asthma without ethmoid disease where there was obstruction of the nasal passages due to other conditions; correction of these was followed by cure of the asthma. In another case of nasal obstruction and asthma combined, the cure was a marvelous one; three years have gone by without any recurrence.

THE PRESIDENT: Discussion that takes in relief of asthma by the removal of any nasal deformity will be in order. We will look at the subject in a broad way.

E. D. BROOKS: I would like to ask whether the pressure of enlarged turbinated bodies against the septum would be productive of respiratory trouble.

G. W. MACKENZIE: The subject brought up in this paper is a most timely one because few general practitioners appreciate the fact that pathologic changes in the tissues of the nose can be responsible for such a general disease as asthma. I cannot accept the statement that every case of bronchial asthma is due to reflex irritation in the nose. It is well enough to sound the alarm, to let the general practitioners know the possibilities and encourage them to practice examination of the nose. I am painstaking in my examinations of the nose and it is remarkable how few cases of asthma I have seen manifest disease of the nasal passages. On the other hand it is undoubtedly true, as Dr. Haseltine has brought out, that certain troubles in the nose may be almost wholly responsible for asthma. If you meet a case of asthma, of which an examination shows that eosinophilia is present, you need not hope to cure that case by operating on the nose even if you remove the whole ethmoid; I have in mind several cases of this kind. I have been able often to improve the patient's respiration by operation where examination revealed chronic suppurative conditions of the ethmoid; have seen an asthmatic case thoroughly cured by such means. That may seem a broad statement and you may say that my experience has been limited. I have observed a few cases of asthma where the patients were anaphylactic, especially to albumin. The wife of one of our general practitioners in Philadelphia has been troubled with asthma for years; she had nasal deflection and chronic empyema with polypi. She had formerly lived in Pittsburgh but had not been able to visit there since because of the recurrence of asthma. We did a very radical operation which enabled her to visit there without difficulty. After awhile, in spite of perfectly free breathing through the nose, she suffered another attack of asthma. A second examination showed eosinophilia and anaphylaxis to albumin.

With these certain exceptions the point that the doctor has raised is a valuable one; certainly anything that makes for more thorough and frequent examinations is to be commended. At the same time I cannot accept, as the doctor claims, that such a large proportion of cases of bronchial asthma are due to ethmoid disease. We find many cases of ethmoid disease without asthma and many asthmatic cases without ethmoid trouble.

J. R. McCLEARY: About a year ago or less I ran across a patient about sixty-nine years old suffering with asthma although there were no heart lesions. Moved by Dr. Haseltine's suggestions I shrunk the membranes all through and reduced the irritations although I did not

do anything radical; I did a mild ethmoid operation, removing most points of irritation, but I knew that I had not removed every point of irritation. Since then I have learned that I did not go far enough in the work. The patient was only half cured, but even at that the relief was great; all the patient complains of is some heavy breathing; the suffocative fits of asthma have all gone, under local treatment the heavy breathing almost passes away. In the clinic there were four cases presented with typical conditions such as Dr. Haseltine has described. These four cases verified his claim, to my mind; they were not my cases and I do not know what the outcome will be.

W. H. PHILLIPS: In 1893 at a meeting in Pittsburgh I heard a paper on asthma and nasal disease but they paid little attention to it. Subsequently I heard a paper read by a New York man on the relation between ethmoid disease and respiratory troubles and forgot about it until Dr. Haseltine once more called my attention to it. I read his paper and resolved to be on the lookout for nasal trouble and asthma. Soon a young woman who had suffered with asthma from childhood came to my attention. Her family physician stated that he had been unable to find any organic lesion to account for it. I went over her case very carefully not neglecting her nasal passages this time. I failed to demonstrate any pathological condition in the nose and so could do nothing in that line. A few months after this she recovered spontaneously, apparently without any treatment. Two more cases of asthma that I saw since that time failed to reveal any ethmoid lesions to account for the asthmatic condition. Both of these cases still have their asthma. The middle turbinated in both individuals seems to be normal and the septum is perfectly straight. In their general condition one showed some kidney lesion with sclerosis and the other had a heart lesion. I do not recall any asthma complicating polypoid conditions of the nasal cavities but I have seen high fever with asthmatic breathing accompanying exceedingly hypertrophied middle turbinates. This case I am going to operate on and hope for good results. I think that we should all pay especial attention to the subject and find out the truth of the contention.

I. O. DENMAN: We find the two states of asthma and nasal trouble so frequently associated that I should say no case of asthma is completely examined that does not include a thorough nasal examination.

J. A. CAMPBELL: The object of this paper, as I take it, is to call attention to the relationship that exists between the nose and asthmatic disease; it is well to do this because it should always be borne in mind as a possibility. On the other hand I am certain that there is no relationship in many cases that have come under my observation. About twenty years ago an old lady about sixty-five years of age came to me complaining of obstruction in her breathing and asthma. I operated and took out twenty-six polypi, curing the asthmatic condition which she had had for many years. Another case was a man who

had spells of difficult breathing so great that he became insensible. I found obstructions in the nose; I operated on the worst side with relief but after a time the spells came back again. I operated on the other side and relieved him entirely. These cases however are exceptional in my experience. I have come across a far larger number of asthmatic cases in which no trouble with the nose could be found.

The doctor does not mean to state that the cause of all cases of asthma can be found in the nose. Calling attention to the fact that the nose should be remembered as a possible cause is an admirable thing and I regard this as a valuable paper. That bad states of the nasal passages may exist without bronchial asthma is shown by a case that I recall in which I removed twelve polypi in which there was not the slightest trace of asthma.

PRESIDENT SHEPARD: I have a case in mind that indicates the important place disease of the ethmoid may have in eye affections. About a year ago a woman of thirty-seven, of extremely nervous temperament, came to me suffering from intense hyperæmia of the conjunctiva with photophobia and lachrimation. She had suffered exceedingly for several weeks from this condition of the eye; because of some sexual symptoms I suspected it to be reflex from those organs. Upon examining the nose I found marked swelling of the middle turbinate on the right side. I put in the argyrol tampon and it was completely bleached and was followed by immediate relief of the eye symptoms. The third tampon was not bleached at all and she was completely relieved of all symptoms of the eye. Last fall she came with a return of the eye symptoms and a single tampon relieved her. It was the complaint that she made of a feeling of fullness of the nose that led me to make a nasal examination.

DR. MACKENZIE: The subject recalls to my mind an odd case of a patient that was sent to me three years ago suffering with asthma and hay fever. I examined him and found nothing in his nose to indicate mechanical interference. He was a nervous man and easily scared. I gave him some medicine and told him to report later, but he never came back; I subsequently learned from his doctor that he got well and had never had an attack since. There are only two explanations possible; either I scared him into getting well or I happened to hit the homœopathic remedy.

DR. HASELTINE: I appreciate the response that this rambling talk of mine has given rise to and I fancy that the discussion has helped me far more than the talk has helped you. Just a word as to definition: when I say ethmoid area, I mean to include the middle turbinate which is part of the ethmoid area. Free breathing space may coexist with ethmoid disease. I am glad that we have started out to keep the good resolution spoken of by the president in his address, of speaking out our minds. I did not attempt to make an accurate statement of just the proportion of asthmatic cases which were due to

ethmoid disease; inasmuch as nobody has attempted to keep accurate statistics it is not possible for anyone to give the exact proportion. Taking just the cases that have been reported here tonight the proportion would be higher than I claimed as my estimate. Dr. Phillips has certainly reported two cases in which there appeared to be no relation between asthma and ethmoid disease but every other speaker has stated that ethmoid trouble was present in the cases reported. I do not believe that Dr. Mackenzie or anybody else ever removed all of any patient's ethmoid, that is if the patient is still alive, or even all of the ethmoid cells. Whether any of my patients with chronic ethmoiditis and asthma had anaphylaxis and eosinophilia I do not know, but I do know that they had the nose condition and the asthma and I think that any patient who had ethmoiditis and asthma long enough would finally have anaphylaxis and eosinophilia. Long continued infection may induce those two conditions so that even Dr. Mackenzie's cases help prove my contention. The proportion of cases that show relationship between these two conditions is therefore large. What we have heard tonight shows that the proportion is large and that I am moderate when I claim that at least fifty per cent. of asthmatic cases are associated with nasal disease. I have had considerable experience lately and I speak with more assurance than I did in my first paper. A year ago at the meeting of the American Medical Association a paper was read that proved by a report of two hundred cases that there was a relationship between the two diseases, for of the two hundred one hundred and eighty-five were of that kind. Therefore I think that I have the right to stick to my fifty per cent.

The particular part of the nose involved in the relationship seems to be the ethmoid area; we do not seem to get the same reflex irritation in disease of the antrum of Highmore or the frontal sinuses or septal deformities alone but only when they encroach upon the ethmoid area.

DR. MACKENZIE: I would like to correct the doctor on the fifth nerve. The ethmoid region is not supplied by the descending branch of the fifth. I do not know how Dr. Haseltine divides it, but the fifth nerve has three branches and the ethmoid region gets its main supply from the upper or first division of the fifth; from the anterior and posterior ethmoidal branches which are distributed to that area. The superior laryngeal nerve, which is a branch of the pneumogastric, supplies the larynx with sensation and one muscle with motion. The inferior or recurrent laryngeal supplies all the other muscles of the larynx. The superior is chiefly sensory, if you touch it the patient coughs. One small branch of the pneumogastric goes to the ear and accounts for the cough that sometimes accompanies auditory canal irritations. The concave surface of the glottis, along with all the mucous surfaces, is supplied with sensation by the superior laryngeal nerve, hence any foreign body touching the epiglottis or any point

in that region is ejected by coughing. I think that the most useful papers that we have are those in which we devote our time to reporting a few cases very carefully rather than numerous cases imperfectly.

EARLY TREATMENT OF FRACTURES OF THE NASAL BONES.

HAROLD A. FOSTER, M. D.,

New York.

I WISH to call to your attention a subject which to my mind is of vast importance but is often sorely neglected: namely, the early correction of nasal fractures.

Very little has been written upon this subject and it is really impossible to lay down any definite treatment. Each case varies in extent and so must be individualized.

In considering the treatment, first of all we must have a definite knowledge of the parts; secondly, we must ascertain what parts are misplaced; and thirdly, we must select suitable and prompt procedures.

Owing to the fact that the nasal bones are in close relationship to the perpendicular plate of the ethmoid, the cartilaginous septum, the vomer, the superior maxillary and the frontal bones, their fracture involves more than the mere superficial disfigurement of the face.

A neglected nasal fracture not only obstructs the breathing space but, as you know, creates lesions varying from impaired resonance and catarrhal inflammation to sinusitis and polypoid degeneration.

Most patients appearing for relief from mechanical nasal obstructions are able to trace the cause of the difficulty to a past injury; others may have received prenatal pressure or trauma during infancy. The third class is that of impaired facial development, which does not concern us at present as it is a condition for the orthodontist.

One is led to wonder why nares with occluded respiration are so prevalent. The reason is that many nasal injuries are ignored or treated without paying sufficient attention to function.

A fractured nose should be attended by a physician especially skilled in rhinology, in order that the functions of that organ may be preserved as well as the external contour.

In fracture generally both nasal bones and the cartilaginous septum are affected, very frequently the ethmoid, and often the vomer at its articulation with the superior maxilla. Fortunately the cribiform plate of the ethmoid is seldom involved. The nasal bones are more

frequently dislodged from the superior maxilla or separated from each other than actually broken.

The resulting lesion is dependent upon the direction of the blow. When from below, the brunt of the impact falls upon the septum and the triangular cartilage may be detached from its bony surroundings and the spine of the superior maxilla may be broken. When the blow comes from the front, the nose is flattened. If the blow is from the side, the nasal bones may remain intact and the septum receive the greatest injury.

The early symptoms of nasal fractures are epistaxis, deformity, swelling, and often crepitus, following which is edema. The most frequent complications have to do with the nasal septum since it is ordinarily involved. The starting of the quadrilateral cartilage at some of the bony attachments may be evident at the time of the fracture as a marked dislocation; or it may be so slightly involved that no change can be seen until long afterwards, when an enchondrosis from an inflammatory process is formed along the previously loosened border. The most frequent dislocation of the cartilage is with the vomer and ethmoid and frequently with the nasal process of the superior maxilla; the vomer also is prone to an exostosis at the juncture of the superior maxilla.

The most important feature of treatment is *prompt* correction. Cocain anesthesia is essential for examination. If a dislocation or deviation is found it should be corrected together with the external nasal deformity. If the fracture is extensive a general anesthetic will be required. By a combination of external manipulation and internal elevation of the fragments, the deformity can be corrected. A blunt heavy submucous elevator can be used to raise the fragments, and for the septum a heavy pair of forceps with long blades opening on the flat.

Internal support varies according to the degree of injury. With a fracture well up, gauze packing is necessary, but Burnay's sponges can usually be cut to suitable shape to hold the fragments in place. Particular pains should be taken to establish firm packing at the juncture of the quadrilateral cartilage with the bony surroundings and at the junction of the vomer with its articulation to the superior maxilla. The intranasal packing should be changed within forty-eight hours after the operation, in order that the cavity may be cleansed. It is usually possible to adjust the external correction by means of adhesive strips. Unless treatment is undertaken early the internal deformity tends to increase.

Not only do nasal obstructions acquired by injury demand prompt correction but also the congenital variety and those of childhood. Congenital deformities are much less frequent among negroes than among the white people. Dr. Richard Liebrich, a German residing in Paris, spent last winter in Egypt, Central Africa and Morocco. He measured several thousand skulls of the negro race and also the pelvises of the women. He finds that the pelvis of the negro has a longer anteroposterior diameter than that of the white. Dr. Liebrich concludes that it is very probable that sometimes the head of the child of the white woman rests on the brim of the pelvis in a way which causes nasal deformity and defective vision.

An interesting case of congenital nasal deformity was brought to me last winter. It was that of a newborn baby with a **complete stenosis of the posterior nares**. It appeared to have had pressure from the front. The septum was buckled and she was unable to nurse. I was able to force my way through with a probe and to dilate with a pair of small forceps. I repeated this dilatation for five days after which time permanent openings were secured. The baby now has practically normal breathing space.

Mouth breathing in childhood is sometimes due not only to adenoid vegetation but also to occlusion from a deflected septum. At the time the adenoid is removed in such cases it is advisable to perform a partial Asch operation as well, using also heavy flat nasal forceps. In small children packing is not necessary, but from the age of seven and upward packing must be used on the deflected side.

I performed a submucous resection upon a boy 19 years old; a month afterward he was hit on the nose by a baseball bat. The blow came from the left side and broke the left nasal bone horizontally, and drove the right nasal bone into the superior maxilla. For the operation a general anesthetic was administered. By a combination of external manipulation and internal elevation the fracture was reduced. In this case the packing consisted of Burnay's sponges and adhesive strips were used externally.

An unusual case showing results of a neglected fracture was referred to me in March, 1913. The former diagnosis had been tuberculosis. The symptoms which the patient presented were rapid loss of weight, evening temperature and marked general lassitude. The frontal pain which had been almost unbearable had been ignored. A year previously he had been kicked in the nose by a horse and it is

needless to say the fracture had not been corrected. Examination showed occlusion of the left naris with a slight discharge of thick yellow pus. There was extreme sensitiveness on pressure over the orbital surface of the frontal sinus, and transillumination revealed dense shadow. All that was necessary was a submucous resection of the nasal septum; this removed the pressure and allowed sufficient drainage—a great quantity of pus immediately flowed out. We used argyrol tamponades for two weeks following the operation, after which an x-ray picture showed a perfectly clear sinus. The frontal pain naturally disappeared; in those two weeks the patient gained 12 pounds and his so-called tuberculosis was cured.

7th Ave. and 55th Street.

DISCUSSION.

L. E. HETRICK: I thank Dr. Foster for bringing up this subject, it is one that should be brought before the general practitioner more frequently than it is. Many of our cases of catarrh of a chronic nature are the result of fracture of the nasal framework done years before. Some of these catarrhs might have been avoided if the nasal fractures had been treated more skillfully. The point the doctor makes about the lateral cartilages is a good one.

J. IVIMEY DOWLING: In regard to the dressing in cases of fracture of the septum the use of gutta percha splints placed against the septum and Simpson's tampons between that and the turbinated bodies, makes the best dressing and the most comfortable to the patient. They may be cut to any shape you wish and as long as you want. After the removal of the sponge they can be prevented from falling into the pharynx by a silk thread fastened upon the cheek with adhesive plaster. One point of interest to the oculist is that fracture of the septal bones may cause atrophy of the optic nerve. Hence in obscure cases of atrophy it is well to make an examination of the nose. A case in point is that of a young man who was struck in the face with a bat and as a late result vision became impaired. No thorough examination of the nose had been made. He consulted me after some time and I found a bad fracture of the septum extending up into the sphenoids. I refractured the septum and secured a good result; the vision improved to normal, although he is still troubled with diplopia.

E. D. BROOKS: The point that has impressed me about this subject is that the great majority of cases of fractured nose occur in early life, in children. Little attention is paid to it at the time and the troubles that we as specialists have to attend to in the nose are due to these early neglected fractures. Even if the parents call the attention of the family doctor to it, he does not bother with it unless there is an obvious external deformity. It is rare to see an adult who has not suffered some injury in childhood that leaves its marks upon the nose. Thus

we constantly meet conditions difficult to correct but which would have been easy at first. If we could educate the parents and the family physicians so that they would appreciate the importance of taking care of all injuries of the nose in childhood much would be done to correct this.

W. H. PHILLIPS: Dr. Dowling has stated that atrophy of the optic nerve may follow injury to the nasal bones; I can hardly conceive how optic nerve atrophy could result from such an injury. I have never seen a case of that kind or heard of a similar case.

F. C. SAGE: This injury is very common; we do not often look into a nose and find a perfect one. I have had in my place a number of cases of severe fracture from the kick of a horse or mule. The worst I have had was in a girl of fifteen. She was in the habit of riding the family mare to school. The animal kicked her with full force on the nose. It drove the nose clear back below the level of the face. The bones were crushed and several teeth knocked out. I got good results so far as breathing was concerned but not as good as we would have liked cosmetically. I would like to have the essayist suggest some way of restoring the symmetry of the face, so as to make it fairly like it was before the injury.

G. W. MACKENZIE: This subject is an admirable one to present and one to which the attention of the general practitioner cannot be too frequently called, because he is the one who sees such cases first when there is a chance to make good repairs. He is prone to neglect making a sufficient examination. Therefore it would be well for the essayist to present this paper also to a society of general practitioners. Concerning deformities from injuries, the doctor has classified them pretty much as I do. Fracture in this region (pointing to the chart) is apt to occur from direct force and the break runs at right angles as a rule to the direction of the force that produced the fracture. When the nasal bones are fractured the septum is very apt to be injured also. The resulting inflammation is apt to involve the periosteum and if the patient is a child there often follows a lack of development and growth of the bones resulting in a saddle nose. When the fracture is below the lower edge of the nasal bone (E) the result is somewhat like that which follows an unfortunate submucous resection. The most common result of injuries here is an overlapping of the fractured cartilage. If the force is in this direction on the tip (pointing to chart) it will probably injure the septum displacing the columnar cartilage from the quadrangular cartilage (typical of the prize fighter). Adhesions may occur in a haphazard manner as a result of the healing process. The cartilages then seem to be double because they overlap and when you try to separate them with an instrument you find it difficult. If you use much force you will go through on the opposite side. The first symptom is hæmorrhage followed by hæmatoma, later the possibility of an abscess of the septum.

DR. FOSTER: Someone spoke about the frequency of nasal fracture in infancy: when you are called to see such a case it can be best corrected by using the little forceps made by Hayes, of Philadelphia. Very generally there will be a deflected septum and swollen turbinate both of which will be corrected and the septum put in line by this forceps. The turbinate will be flattened so that there will be more breathing space. I was skeptical about this instrument at first but I have tried it out and found the claim to be true. It is also of service in raising the fragments of bone into place.

As to Dr. Sage's question I would say that the best method of correcting deformities in the appearance is by the use of paraffin. First inject one-half per cent. solution of cocain into the tissues then in five minutes inject the paraffin. It has a melting point of 110 degrees. Put in only a few drops at a time; the usual fault is to put too much in at a time. When too much is put in at once it is likely to inflame and to suppurate, thus it leaves an inflammatory red spot at the point where it was put in. Put it in very slowly into the cellular tissue and repeat several times until the contour is good. Thus it will correct a considerable deformity.

HOMŒOPATHIC THERAPEUTICS OF THE PHARYNX AND LARYNX.

CHARLES E. TEETS, M. D.,

Professor of Rhino-Laryngology, New York Ophthalmic Hospital.

THOSE of you who have watched carefully the action of remedies selected according to the principles of homœopathy must admit that it has an advantage over all other methods of treatment, but we must not lose sight of the fact that there are certain abnormal conditions that are not curable with remedies alone; when a homœopath recognizes this he becomes a good homœopath and a credit to the school.

Apis when indicated or called for, gives prompt and satisfactory results. In edema of the soft palate, uvula or the larynx it usually is the only remedy or means necessary to bring about a complete cure. In edema of the uvula, while I have advised cutting off the tip of the uvula when the remedy does not give relief, I have only had occasion to do this once. Take those cases of lacunar or cryptic tonsillitis where the exudate is so profuse that it forms over the tonsils a patch resembling diphtheria: apis rarely fails to give the most satisfactory and surprising results. Its symptoms, as you will find in the materia medica, are ulcers on the tonsil, uvula edematous, throat swollen inside and out.

There is no remedy that we employ more frequently for affections of the throat than **Belladonna**. Its throat symptoms are well known: angry looking congestion, dry as if glazed, tonsils swollen, throat feels constricted. Many times you will be disappointed with the results following the administration of belladonna, because the causes of the congestion had not been recognized and removed. It may be disordered stomach, improper use of the voice or faulty vocalization. If these are corrected the throat symptoms will usually disappear without any remedy. In throat affections we cannot always select the proper remedy by looking at only one corner of the picture. The localized symptoms act many times only as a guide to a number of drugs, and we must consider the general symptoms in the selection of the proper remedy.

Senecio aureus. The books give us very few throat symptoms: dry-

ness of the mouth, throat and fauces are all. I would add to this dryness and burning in the pharynx, with a tendency to extend to the nasopharynx, raw feeling in the nasopharynx, cannot resist the inclination to swallow although he knows swallowing will cause him pain. In those cases where the inflammation starts in the oropharynx and gradually extends into the nasopharynx and nasal passages, the disease can often be checked and cured in a few hours with this remedy. I would advise when using this drug to use the green tincture.

Do not forget **Spigelia**. We think of this as a heart remedy, but it also acts well in postnasal catarrh. The symptoms given in our materia medica are discharges of mucus from the fauces, mostly from the posterior nares. I would add to this: postnasal discharges worse at night and when lying down; a constant dripping into the larynx.

Protiodide of Mercury has been considered the remedy called for when the inflammation starts in the right tonsil and the biniodide of mercury when starting on the left side. I pay little attention to these symptoms, but follow the advice of Dr. Beebe given many years ago, and prescribe the protiodide of mercury where only the superficial part of the tonsil is involved, as in superficial and lacunar tonsillitis. Where the deep tissues of the tonsil is the part affected as in parenchymatous tonsillitis or peritonsillitis, the **Biniodide** is given. This remedy will often, if given frequently, abort peritonsillitis.

Nitric acid is a remedy frequently called for in persistent spasmodic laryngeal coughs. The cough will start with a pricking or tickling in the larynx, more at night, when lying down, also the cough is aggravated if lying down during the day. Purulent expectoration.

Lycopodium. The only indications that the books give for lycopodium as a remedy to be thought of in tubercular laryngitis are: shortness of breath, cough, expectoration of thick yellow bloody mucus, ulceration of tonsils. Nothing is said of ulceration of the vocal bands or of the neighboring tissue. This is one of the best remedies we have in the treatment of tubercular laryngitis, especially when ulceration commences.

Bryonia. Dryness of the throat, tough mucus in larynx and trachea, loosened only after frequent hawking; voice rough and hoarse; soreness in larynx and trachea. Coming into a warm room not only excites a cough but causes the mucus to collect around the cords and in the trachea.

Ferrum phosphoricum is a remedy especially beneficial to singers. In subacute laryngitis with the fauces inflamed and red, it gives prompt relief when given in the second decimal. Dr. Henry C. Houghton claimed that if a disk was held in the mouth for a few minutes previous to any unusual effort, if suffering from hoarseness it would enable the singer to control the voice in its entire compass. This is also a useful remedy after operations upon the nose and throat to control the bleeding and relieve the soreness.

Arnica is a remedy that is often useful after operations in any part of the body, especially upon the nose, throat and sinuses. It also is a remedy worth remembering in hoarseness from overuse of the voice when accompanied with a feeling of soreness and tickling in the larynx and trachea.

Causticum also acts well where there is hoarseness or aphonia accompanied with pains in the chest or soreness in the trachea. In acute laryngitis this remedy seems to act best in the higher potency, while in the chronic form a lower potency gives the best results.

Following an acute or subacute laryngitis there often remains some hoarseness due to improper approximation of the free edge of the vocal bands, which is often spoken of as paralysis of the tensor muscles; oxalic acid 2x or 3x usually completes the cure.

Baryta iodata and **Baryta carbonica** are useful remedies in large diseased tonsils accompanied with swollen submaxillary and cervical glands. Tonsils composed mostly of lymphoid tissue are often reduced in size by persistent use of these remedies.

Spongia. Hoarseness with dryness of all the air passages; pain in larynx and trachea; pharynx burns and feels constricted; incessant cough, often croupy in character; difficult respiration.

There are many other drugs with certain characteristic throat symptoms which might help us in finding the correct remedy but the best results are obtained where a complete record of all the symptoms are taken.

353 Fifth Avenue.

DISCUSSION.

ALVA B. SOWERS: The author has called our attention to a group of remedies which have doubtless been most efficacious in his hands. I suppose every physician has his own favorite list of remedies. While some of those the doctor has mentioned will appear in everybody's list yet others will be a new suggestion and it is by listening to the successes of other men with drugs unfamiliar to us that anything is gained from these papers.

I do not believe any internal remedy will accomplish a great deal in a case of tonsillitis unless the local treatment is instituted as well. If crypts are thoroughly cleaned and the exudate removed from the surface then apis will hasten the reduction of the edema. I find apis of service following tonsillectomy where the edema is pronounced.

I believe we will all agree that belladonna is one of our most useful remedies in early throat affections; its indications are too well known to require comment.

Senecio aureus and spigelia are both new to me in the treatment of nose and throat diseases, therefore I must leave them to be discussed by some one who is more familiar with them.

I find the mercuries of greatest service in those conditions where there is extensive necrosis and ulceration. A very foul throat always suggests some form of mercury to me.

Ferrum phos. appeals to me as a remedy which I have neglected, especially does it seem to be indicated in professional voice users. I have made a mental note of this to apply on my next opportunity.

Those cases in which baryta iodide and baryta carb. are indicated usually find their way to the operating room if my advice is followed. These remedies have a very favorable effect after the tonsils are removed. I look upon them as excellent tonics, specially for the backward child that has suffered for a long period with diseased tonsils and adenoids.

It does not seem to me that any group of remedies having to do with the nasopharynx is complete without including gelsemium and phosphorus.

Gelsemium, with its affinity for the fifth nerve, is one of the most frequently indicated remedies in my practice. For the early stages of rhinitis, as a beginning symptom of the grip, this remedy is eminently fitted. Also postoperative following nasal resections.

Phosphorus is the first remedy I think of in the aphonia of acute laryngitis.

Echinacea will frequently be valuable in quinsy when the patient becomes extremely septic. It should be given in the tincture, ten to thirty drop doses, every four hours.

The question as to how much prescribing a specialist should do is not settled in my mind. I feel that in the average case we are perhaps justified in selecting our own remedies, but in desperate cases we will profit both financially and professionally if we invite the aid of a good internist.

E. D. BROOKS: Some remedies that I have found very useful have not been spoken of in this paper. **Ferrum phos.** should be more used than it is; it is similar to aconite, acting well upon the stage of congestion but for possibly a more chronic condition than aconite. I never perform an operation on any part of the body without giving aconite 3x every two hours for the first 24 hours. It renders the re-

action more mild and the recovery quicker. I keep my regular patients supplied with aconite 3x to take when they find themselves taking colds; I have seen a great many colds either aborted or rendered milder by its timely use. **Lac caninum** is valuable to the specialist for symptoms that go from side to side of the throat; I have never failed to get prompt results from this remedy when there was this peculiar side to side alternation. **Lachesis** is also valuable; I have been using it for thirty years and it is just as valuable today as it was then. I get undoubted results from its use in left sided troubles which are worse from sleeping; if there is any external sign of the trouble it is apt to be of a dark blue or purple color. My lachesis works. I have tried baryta a number of times but have always been disappointed in it. The last speaker said that it was advisable to call in an internist when we need therapeutics; it is my belief that if we take up the materia medica with as much interest and application as we take up a new operation we will do better work and will not have to call in any internist.

J. IVIMEY DOWLING: I have observed that after prescribing the correct homœopathic remedy patients have said to me on several occasions that that medicine was the best cathartic they ever had. The remedies followed by such a result have been aconite, gelsemium, pulsatilla and hepar sulphur, and I have come to look upon the result as a good reason for continuing the remedy. In one case a man received hepar sulphur—a great strong ox of a man—and he was purged by two tablets of the third decimal given four times a day. It effected good results in the trouble prescribed for, viz., the throat and eye, and purged him in addition.

I treat a good many of my cases with the first decimal of calomel for this purging effect, following it with a saline cathartic.

BURTON HASELTINE: Some one spoke of gelsemium as having a well known action on the fifth nerve; how can that remedy attack the fifth nerve, and by what branches does it reach it?

W. H. PHILLIPS: I am not going to answer Dr. Haseltine's question. A personal case of sickness about a year ago has done more to make a homœopathic believer of me than anything else that ever happened to me. I had an attack of illness—a streptococcus infection—and called in a homœopathic nose and throat doctor. After filling me full of aspirin he incised the tonsils in two or three directions. I carried a temperature of 100 degrees only but I never want to be sicker than I was. Things went on thus for five days, finally I rebelled and asked him to prescribe for me homœopathically for I would take no more aspirin. I suggested that I get an internist and got Dr. B——. He questioned me and among other things asked if I had a burning. That had been one of the greatest features of my misery. He gave me arsenicum 6x. I was better in an hour: I drank a glass of milk, my temperature went down to normal and I was almost ready

for business next morning. If anything ever could convince me of the efficacy of the homœopathic remedy that did it.

G. W. MACKENZIE: I was wondering when Dr. Brooks was speaking of lachesis if he would prescribe it for Dr. Haseltine and myself for our loquaciousness. I want to say frankly that I am a poor prescriber; I do not get as good results as I would like or as I perhaps would get if I had studied the materia medica with more attention, as Dr. Brooks suggested. But I have had isolated good results. I once got remarkable results from the use of lachesis in hæmorrhage: I found the blood pressure not especially high. I thought I perceived symptoms for lachesis and gave it; it accomplished all that I had prescribed it for and more, for it cleared up sugar in the urine that had been found there before. In the *Hahnemannian Monthly*, April, 1912, anyone who is sufficiently interested may find the record of this case. Certainly there are conditions where mechanical interference alone will not accomplish results.

The dominant school is conceding that there is a class of inflammations of the nasal mucous membrane due to toxic substances generated within the body, perhaps due to faulty elimination. No matter what is done to the septum or to the turbinated bodies such cases do not get well. The only thing to do in such cases is to consider the totality of the symptoms and prescribe the homœopathic remedy.

I want to cite one case somewhat parallel to that of Dr. Phillips. I was called to see a severe case of tonsillitis; first one side was affected, then the other and then back again. There was considerable swelling of the cervical lymphatics. It was a case in which I felt rather weak; really, I felt stumped by it. I said to the physician in attendance: "Well, doctor, what have you tried?" He had given the red iodide of mercury, hepar, lachesis and lycopodium. I tried to think of something he had not tried. I thought perhaps the best thing was to give sulphur and then go home and look it up. I did not have to look it up. The case cleared up perfectly under that remedy; there was marked improvement in twenty-four hours and soon she was quite well. When we meet such decided results we should put them on record in justice to our school.

J. R. McCLEARY: Some one has said that he observed no results from baryta. I want to speak a good word for **Baryta**, especially its carbonate.

This is a most efficient remedy in throat troubles arising from an overuse of the voice-producing organs by abusing them to a point of strain and thus weakening their resistance to climatic influences. It is a remedy I believe should be used early in the attack. One of its characteristic keynotes is its peculiar stinging either in the tonsils, pharynx or larynx; where this is found it invariably gives relief.

A good case picture of baryta carbonica is that of a young girl vocalist—a concert singer—who was constantly having repeated at-

tacks of tonsillitis, pharyngitis and laryngitis with a sequel of aphonia, being unable to use the speaking voice from twelve to seventeen days. In this attack, to which I refer, aphonia lasted seventeen days for speaking voice and it was three months before the patient could use the singing voice.

The prominent symptom she complained of was a cutting-stinging pain on the inside of the throat (in the neighborhood of the tonsil, pharynx and larynx) extending from in and about the tonsil downwards, then in a day or so it would seem to change to the other side. There was no definite periodicity about it. The condition seemed to change with every change in the weather. Upon inspection the field around the tonsils as well as in the pharynx and larynx was quite red, not the bright red of the acute stage nor the dark of the chronic, just a seeming soft bright red. But upon touching any of these parts for diagnosis she would only complain of one side being painful; probably the next day it would be the other side. Patient at times would complain of the pain being so severe that she was obliged to walk the floor. Baryta carb. in this case proved a very effective cure.

While in general practice I grew very fond of the baryta family and used them very extensively. I had a number of my patients keep the carbonate of baryta constantly on hand to abort their repeated attacks of quinsy, to which they were subject each winter.

J. IVIMEY DOWLING: I wish to speak of belladonna in smoker's throat. The throat is dry and covered with sticky, glairy mucus; it is a chronic condition. Belladonna helps this considerably. I also use a gargle of aqueous hamamelis, one dram of the aqueous solution to eight ounces of water. These two things I consider the best treatment for smoker's sore throat that there is.

HOMŒOPATHIC MATERIA MEDICA AND THERAPEUTICS.
PRELIMINARY REPORT OF THREE CASES TREATED RE-
CENTLY WITH NUX VOMICA.

GEORGE W. MACKENZIE, M. D.,

Philadelphia, Penn.

CASE I. A robust married man, 43 years of age. Prior to 5 years ago the patient was occupied mostly out of doors and at the time was in the pink of health. Since then he has secured a more remunerative position indoors and his habits have been decidedly more sedentary than before. About this same time, when he changed his position, he married what proved to be an excellent cook who caters to his appetite to the extent that he over-eats. This, however, he smilingly denies. During these last five years I have known him well, socially, and have treated him quite often, especially for "colds in the head," which had been growing more and more frequent and persistent.

During the earlier period of this last 5 years some of his, supposed, colds were not actual colds, but a condition recognized by most of us as a vasomotor turgescence of the nasal mucous membranes. Since then this vasomotor condition has remained a prominent feature whether the patient has a cold or not. Perhaps the most characteristic feature in the case is that immediately after a meal the nose stops up to the extent that the patient is compelled to breathe through his mouth; this will last for a half hour or more when the symptom gradually passes off until the next meal. His last "cold in the head" began in May, 1913, and lasted until 8 weeks ago when the nux vomica was given.

Rhinoscopic examinations from May, 1913, to Nov., 1913. The findings would vary somewhat from day to day. Examination would reveal the breathing space completely shut off because of swelling of the mucous membrane. The color was redder than normal but not so red as that found in an acute rhinitis. The appearance was that of dryness but at the same time small drops of thick secretion could be seen running from the openings of the mucous glands and occasionally

very thin fibers of secretion could be seen stretching across from the inferior turbinate to the septum, showing that the two surfaces had been recently in contact.* Under the influence of cocain, 20 per cent., the swollen mucous membranes would shrink down close to the underlying bone. In other words there was no distinct hyperplasia of the nose.

After shrinking sufficiently to get a good view of the structures high up and in back it could be seen that the mucous membrane of the middle turbinate and processus uncinatus was pale and succulent looking. This condition was present on both sides. The pale succulent mucous membrane of these parts was rather diffuse and not limited to the lateral or median aspect of the middle turbinate as it is often found in case of sinus disease; nevertheless I did not jump to the conclusion that a disease of one or more of the accessory sinuses could *not* be responsible for the condition. Oft repeated and careful examinations led me eventually to conclude that the sinuses were not responsible for the condition. There were other times when the condition of the nose would present a similar but less intense picture of that outlined above.

Treatment: Various treatments were used, including shrinking, the application of nitrate of silver 2 per cent., argyrol 10 per cent., home treatment with cleansing sprays followed by bland oil and internal remedies, no doubt poorly prescribed. No operations were performed for the reason that at no time were there any clear indications for such, since the septum was decidedly straighter than the average and no polyps or hyperplasias were present.

I had almost despaired of giving the patient relief, but did not so express myself to the patient because of his faith in me. At about this time (8 weeks ago) I came to the conclusion that this man's condition was primarily due to a vasomotor paresis plus a "cold," with the former condition predominating. I furthermore reasoned that the treatment I was giving was making him worse. Accordingly I stopped all local treatment and gave *nux vomica* 6x internally, with very happy results. Improvement was apparent in 24 hours and complete cessation of stuffiness in the nose and discharge, in 48 hours. After three or four days the patient reported that he felt better in the nose and, too.

*Chromico-kali-sulphuricum.

felt generally better than he had for 5 or 6 years. Since then the patient has been free of all symptoms and has had no return of his former condition.

The results in this case led me to investigate a similar case, that of a prominent ear, nose and throat specialist who had been treated by several men, including myself.

CASE II. A fellow specialist in Philadelphia whose nose and throat I had examined at many odd times during the last 3 years.

It was the practice of the doctor whenever he had the slightest excuse for so doing, to go to one of his numerous specialist friends in Philadelphia for examination and treatment, and he would change physicians as often as he would his clothes. His object was to study the various methods of examination and treatment of these different specialists. In brief, he did so for educational purposes only, never criticising one doctor in the presence of another. On one occasion in the spring of 1913, one of the specialists to whom he had gone applied adrenalin to the nose. The reaction was "terrific" (to use the patient's expression), which led him to the conclusion "never to use adrenalin in the nose of a patient except under the most pressing circumstances." He dates his recent "cold" to the reaction produced by the adrenalin. He came to me about one week after the beginning of his trouble, in the meantime he had been treating himself with various spraying solutions.

Examination of the nose and throat showed a picture practically identical with that of Case I. In fact the doctor knew Case I and had studied it with me. In the meantime I had described to the doctor (Case II) that the picture in Case I was identical to his own in all details. We both, knowing the results from the use of *nux vomica* in Case I, agreed to stop all local treatment and go on *nux vomica*, which he did. Being a physician of the old school he agreed to take *nux vomica* tincture, one drop three times a day. In his case the beneficial results were apparent in 24 hours and after three days the improvement was decided. After six weeks he has had no return of any of his former symptoms and whenever I ask him how he feels he always answers, "Bully, I have nothing to complain of."

CASE III. A fellow specialist of homœopathic affiliation. To save space I will merely state that the history is practically that of the other two, *i. e.*, repeated colds with excessive swelling of the mucous mem-

brane or, as he calls it, intumescent catarrh with pseudo-hypertrophies. In other words vasomotor weakness plus simple catarrh with the former element predominating. In addition overtreatment locally. In his case all local treatment was abandoned and the patient put on *nux vomica* with the result that he has improved materially so far as nasal obstruction goes but he continues to have some discharge. He has been under treatment for so short a period (3 weeks) that I hesitate to report the case. I trust to study this with other cases and report them more caefully at some future time.

In these three cases there are certain points in common:

(a) All three cases are stout middle aged married men. All healthy looking specimens, Case I and II more so than Case III.

(b) All, including Case I, have a good knowledge of the subject of rhinology.

(c) All were well fed if not overly so.

(d) All were formerly physically active if not athletically inclined.

(e) All have since devoted themselves to professional or semi-professional occupations and are active hustlers in their respective fields.

(f) All have neglected physical exercise.

(g) All suffered originally with more or less vasomotor paresis as evidenced by so-called intumescent catarrh, pseudo-hypertrophies or whatever you may choose to tag it.

(h) All subsequently had added to this vasomotor weakness an acute rhinitis which failed to clear up in due time.

(i) Mechanically all three were free from hyperplasias, polyps, sinus disease and had fairly straight septums.

(j) All had been decidedly over-treated.

(k) All were benefited by the abandonment of local treatment and the administration of *nux vomica*. The potency used in Case I was 6x; in Case II tincture; in Case III the 3x.

There is much more that I might add of a speculative nature but I prefer to wait for further corroborative evidence.

Reflecting on these cases calls to my mind a paper I read a few years ago before the Kings County Society, of Brooklyn, since published in the *Hahnemannian Monthly*, where I stated in effect that there are some cases of so-called catarrhal conditions of the nasal mucous membrane which are secondary to systematic disorders and furthermore

that in such cases a good general prescriber will succeed far better than we specialists who, too often, treat the patient entirely from a local viewpoint.

THE INDICATED REMEDY.

JOHN HUTCHINSON, M. D.,

New York.

THERE is great danger of losing proper respect for *materia medica* when we ignore symptomatology. Is not the tendency to prescribe for pathology as it looks to the eye and the microscope a perilous one, often resulting in disaster to the case as well as to our own intelligence? When disappointments come to us after our exhibition of a remedy, it is not *materia medica* that is on trial but simply ourselves and our way of using *materia medica*. If it is possible to lose confidence in the value of a well-proven remedy, like belladonna, which has its utility fully established by the incomparable study of Hahnemann himself to say nothing of later masters, the reason for such loss of confidence impresses us. Is it not open to examination?

Belladonna is rightly considered one of the most valuable and potent remedies in *materia medica pura*. It is indispensable in its true place. It is applicable to an enormously wide range of conditions not excepting acute congestions of the mucous membranes of the respiratory tract, Eustachian tubes, and tympanic cavities. Belladonna has also cured patients ill of meningitis, not by virtue of that diagnosis or pathology but rather by virtue of a pathology that expresses the belladonna symptomatology. Is it not so, and must it not ever be so, in any condition requiring belladonna? Or in the case of any other remedy whose proving is properly understood?

When we consider the fact that scores of different remedies have unique effect on congested and inflamed mucous membranes, and that the symptom complex of each remedy is distinct and perfectly discernible, are we not forbidden to expect that belladonna or atropia or hepar or calcarea carb. shall cover all cases or be applicable with anything like routine frequency?

Also, is it not impossible that atropia have any effect anywhere at any time surpassing gelsemium when the latter is indicated by its own peculiar symptomatology?

441 Park Avenue.

CURRENT LITERATURE.

DEPARTMENT EDITORS.

WM. McLEAN, M. D.,
New York.

FRANK O. NAGLE, M. D.,
Philadelphia.

THE AMERICAN JOURNAL OF OPHTHALMOLOGY. December.

1. Results in treating detachment of the retina. A. Darier. Trans. by A. Alt.

THE LARYNGOSCOPE. December.

1. The development and extension of the limits of laryngology. George A. Leland.

*2. Indications for the correction of deviations of the nasal septum by the Gleason operation. E. B. Gleason.

3. Autogenous vaccine in the treatment of hay fever. P. M. Farrington.

*4. Ethmoid abscess caused by the bacillus fusiformis of Plant-Vincent. F. H. Brant.

5. A large cyst of the epiglottis. H. Moulton.

6. Intranasal operations and their relation to hearing. S. W. Thurber.

7. Gradenigo's syndrome—One case report and an analysis of the published cases. H. B. Graham.

8. A needle for intranasal suturing. C. H. Spratt.

9. Sharp tonsil dissector with double pillar retractor, modified Jansen-Middleton nasal septum punch. S. Goldstein.

*2. The writer considers his operation in certain cases of deflected septum superior to the submucous operation, in that there is no tendency to perforation of the septum, no deformity from sinking of the bridge or tip of the nose; that the operation may be done in two minutes and that should collapse from cocain occur, rendering a termination of the operation necessary, a submucous may be done at a later time; and that his operation is better suited to the young or the aged and feeble.

The technique of the operation is given. The operation depends on destroying the resilience of the deflected portion of the septum, and,

after reduction of the deflection, inserting a tube into the formerly obstructed nostril. The tube is withdrawn and cleansed at the end of 24 hours and in another 24 hours it is abandoned.

*4. Dr. Brandt cites the records of infections by the bacillus fusiformis of Plant-Vincent, then adds his case to the report.

Male, aged 54, with a history of supraorbital headaches, mostly right sided and worse in the mornings. Examination was mostly negative. The middle turbinate filled the upper nasal space. The diagnosis was ethmoidal trouble with probable frontal sinus involvement.

After removal of a portion of the middle turbinate the space above was found filled with a cheesy material of characteristic odor. Microscopic examination revealed the fusiform bacillus and the accompanying spirochete.

The anterior and posterior sinuses were curetted, and the frontonasal duct enlarged.

Recovery was uneventful, the headache rapidly disappeared and has remained so for a year.

NEW YORK STATE JOURNAL OF MEDICINE. Jan.

*8. Nasal obstruction as a predisposing factor in the etiology of pulmonary tuberculosis. John H. Pryor.

*12. Subconjunctival injections of cyanide of mercury in ophthalmology. Charles B. Medding.

13. Squint and its correction. John J. O'Brien.

14. Indications for operation on the nasal septum. James J. McCaw.

*8. This subject was presented because first, the lung specialist pays but very little attention to the upper air passages when examining the tubercular patient and, second, school inspection of children's nose and throat has done much to educate the public as to the harm from constant mouth breathing. Nasal obstruction impairs the air supply to the lungs; if this is met with forced inspiration more work is thrown upon weakened lung tissue which should have all the rest possible. Most bacteriologists believe that the secretion from the normal nares has a pronounced phagocytic action on certain bacteria. Tuberculosis of the nares is rare compared to that affection of the tonsils and larynx.

At the Bowne Memorial Hospital, Poughkeepsie, N. Y., out of 72 tuberculosis cases, 59 had some pathological condition of the nose or

nasopharynx. The author holds that mouth-breathing is one of the most prominent predisposing causes of pulmonary tuberculosis.

He does not enucleate or amputate tonsils unless obliged to, because 75 per cent. of the enlarged tonsils associated with adenoids in children are more of a hypertrophy than a hyperplasia, due to excessive irritation from mouth-breathing, and "in a large percentage of cases will shrink of their own accord after the adenoids are removed, or with the aid of a mild astringent." "If they do not do so after a reasonable length of time enucleation will be the proper treatment."*

The author holds the old idea that the current of air from the right nostril passes down the right bronchus into the right lung. By closing one nostril of a healthy patient and having him or her inhale, he finds a slight defect in the lung expansion of that side. He "invariably" finds the corresponding lung affected.

*12. There does not seem to have been any comparative experiments (except by Darier) to determine whether the beneficial effects are due to the injection or to the chemical; whether the production of lymph stasis or the lavage and consequent elimination cause disappearance of exudate.

This paper gives the writer's experience at the Amritsar Hospital, India, under Colonel Henry Smith; it claims that cyanide of mercury is the principal cause of the results obtained, and is superior to salt or iodine. More or less full notes were taken on 200 cases, but full data were impossible. Many patients disappeared on the second day before examination.

The treatment consisted of a subconjunctival injection of 10 to 20 minims of a 1:4000 solution of cyanide of mercury in sterile water; the immediate effects differed considerably in extent and severity, the general results were very satisfactory.

Blepharospasm and lacrimation were promptly relieved; pain in scleritis and ulcer ceased; those led to hospital were able to leave alone next day, so far as these symptoms were concerned. Recent corneal opacities were improved, and with less time and attention than by other methods of treatment. As a routine for chronic trachomas with pannus cyanide injections hold high place if time and suffering are of moment.

*Baryta carbonica or iodata, Stillingia sylv., Calcareo carb., iod., etc., have reduced and saved the tonsils innumerable times.—EDITOR.

In India the best results were evidenced where destruction of the cornea was imminent. No treatment could have exceeded the good results in time or simplicity.

Be sure that the needle point is free between sclera and conjunctiva; inject in one spot, not too near the limbus, only enough to make a soft bleb; if more is needed use inferior subconjunctival space. A warmed solution seems less painful. Children stand stronger solutions than the aged. The cyanide is less irritating than the bichloride, but is as potent, and does not affect instruments.

JOURNAL OF OPHTHALMOLOGY AND OTOLARYNGOLOGY,
January.

1. Affections of the eyes resulting from sinus involvements. Robert W. Miller.

*2. Diagnosis of and indications for treatment of suppurative diseases of the nasal accessory sinuses. Robert Levy.

*2. Although the writer states that "the treatment may be classified under medicinal and surgical," he ignores the former and shows himself not up to date because no mention is made of the Dowling tamponade.

**ANNALES DES MALADIES DE L'OREILLE, DU LARYNX, DU NEZ
ET DU PHARYNX, Decembre, 1913.**

1. Sur le drainage pharyngien des suppurations craniennes d'origine otique. P. Jacques.

2. Pharyngectomie pour épithélioma. Guérison depuis trois ans et demi. Henri Aboulker.

3. Mastoidite de Bezold, ostéite des cellules périlabyrinthiques. Méningite consécutive. Présentation des pièces. M. Reverchon.

4. L'ouverture du sac lacrimonasale par la voie endonasale dans les affections des voies lacrimales. J. Bourguet.

5. Nouvelle canule dilatatrice. Léon Dufourmentel.

ANNALES d'OCULISTIQUE, Decembre.

1. Table alphabétique des auteurs.

2. Table analytique des matières.

NORTH AMERICAN JOURNAL OF HOMŒOPATHY. February.

*2. Treatment and surgery of the accessory nasal sinuses for the relief of ocular diseases. J. Ivimey Dowling.

*2. It behooves every physician to have knowledge of the truth that many ocular diseases are primarily the result of faults to be discovered in the nose or accessory sinuses. The vascular and nervous connections between the nose and eyes are briefly given. Treatment of the nasal complication may require only cleansing with an alkaline spray or normal saline solution, or the use of the Dowling tamponade, as follows:

A pledget of absorbent cotton is well wrapped along about two and a half inches of a probe, is saturated with a fresh solution of argyrol, 40 grains to the ounce of water, and packed well up the naris of the affected side, between the middle turbinated body and the septum, well back if possible; it should be large enough to be snug without causing pain and be left there ten or twenty minutes (maybe an hour) and repeated every day, to once in two weeks as improvement is secured. If discolored the presence of some pathogenic (pus producing) organism is indicated.

The intranasal surgery that proves useful here is that which secures efficient ventilation of the accessory nasal sinuses with constant and free drainage, thus "preventing excessive turgescence of the erectile tissues and irritation of the sensory nerves." The author does "not recollect that any other writer has pointedly declared this as the axiom which should govern all operative measures upon the nose. It is the failure to secure this ideal that results in the varied measures of success obtained by different men."

Maxillary antrum disease is suggested by congestion or inflammation of conjunctival sac and cornea accompanied by dental neuralgia or dull spasmodic pains in the eyeballs. Persistent corneal ulceration following abscess has been seen to heal within twenty-four hours after affording drainage to maxillary empyema. Facial neuralgia, tic douloureux are suggestive.

The *frontal sinuses* and *anterior ethmoidal cells* are suggested by: ptosis, conjunctival congestion, sixth nerve disturbances, dull pain over and about the eyeballs, or the sharp excruciating pains of glaucoma. A sluggish pupil should always direct attention to these parts; it may be dilated or contracted. The author has frequently observed retinal congestion or actual disease "present when these parts are affected." Photophobia is a rather constant symptom suggesting complications in the frontal sinus or anterior ethmoid cells, and so is er-

ratic refraction—frequent unsatisfactory changes of glasses; often after attention to the nose unsatisfactory glasses become comfortable or the patient can discard his glasses.

The *posterior ethmoid cells* and *sphenoid sinuses* often are the cause of retrobulbar neuritis and of optic nerve atrophy; these conditions are suggested by dilated pupil, gradually diminishing visual acuity, or somewhat sudden amblyopia or central scotoma.

The *pains of maxillary sinus disease* are < by cold, > by warmth, apt to be worse at night after being in bed awhile.

Frontal sinus pains are supraorbital, generally a dull ache apt to come on after rising in the morning and disappear after an hour or so of activity.

Ethmoid pain, typically, is a dull ache or stuffy feeling over the bridge of the nose, or sometimes is described as pains between the eyes.

Sphenoid pains are referred to the vertex and occiput; they are > by bending forward. More rarely the patient says that on throwing the head forward suddenly there is a feeling as if the brain fell forward. This last symptom Dr. Dowling has found particularly associated with sphenoid empyema.

ABSTRACTS.

Pathogenetic Action of Powdered Dried Tonsil of the Calf. Depressed circulation, probably due to action on the heart muscle; the decreased activity is but temporary. Very pronounced diuresis; it seems to act directly upon the renal cell. (Evidently a stronger diuretic than infundibulin, parathyroid or the pineal gland.) Intestinal movements slightly increased. It seemed to increase the activity of uterine contractions. The contractions of the bladder were slightly increased.

The tonsil infusion subcutaneously in a rabbit lowered the temperature 1.8 degrees in an hour and a half.

The conclusion is warranted [?] that the tonsils have an internal secretion.—Ott, *Alienist and Neurologist*, May, 1913, abs. in *Med. Rev. of Rev.*

NOTE.—Similar results from tonsils of a number of calves, and indeed of other animals and man, are necessary to warrant the assumption of an internal secretion.—Moffat.

Food value—calories—per pound, of sugar is 1850 calories, whole milk 314, sweetened condensed milk 1480.

Schleich's Mixture consists of ether 250 parts, chloroform 80 and chlorid of ethyl 50.

“Then purged with euphrasy and rue
The visual nerve, for he had much to see.”

Milton—Paradise Lost.

Musical Tones. Twelve double vibrations per second make the lowest perceptible sound. Music (the orchestra) begins at forty and ends (piccolo) at four thousand (double) vibrations. The highest audible note (Galton or Edelman whistle) is about 50,000 vibrations per second. It is possible for about 11,000 tones and semitones to be heard, but for musical purposes only about ninety are employed.

Reflex disturbance of the (female) generative apparatus, in susceptible individuals of neurasthenic habit, may be caused by **eye-strain**.

SOCIETIES.

AMERICAN INSTITUTE OF HOMŒOPATHY.

At the December meeting of the Trustees of the American Institute of Homœopathy held in Cleveland, Ohio, Dr. C. E. Sawyer, of Marion, was added to the Council of Medical Education and assigned the duty of looking after the homœopathic societies of the United States; he was given authority to take any action he thought helpful to the homœopathic cause from a society standpoint.

Acting upon that instruction it was deemed advisable to have Dr. DeWitt G. Wilcox, President of the American Institute, meet the various state societies of the Middle West at their regular annual meeting in May. To that end the following itinerary has been arranged.

Dr. Wilcox will not only address the members of the various societies but in addition thereto will address general audiences of the laity upon matters pertaining to modern medicine in general and homœopathy in particular. It is the intention of those in charge of the arrangement to have as many of the state governors, high officials and others of like rank present at these meetings as possible, and to use the occasion to the fullest for the advancement of the cause of homœopathy.

Drs. Sawyer and Wilcox together with the various secretaries of the various state societies are studying every detail of this proposed trip to get in some sledge hammer blow for the good of the cause; your readers are solicited to assist in every way possible. This means a great awakening of homœopathy and it is hoped that all may lend their coöperation and support.

The following is the itinerary as finally arranged:

Ohio State Society at Columbus, O., May 11.

Michigan State Society at Saginaw, Mich., May 12.

Indiana State Society at Indianapolis, Ind., May 13.

Illinois State Society at Chicago, Ill., May 14.

Missouri State Society at Kansas City, Mo., May 15.

Iowa State Society at Des Moines, Iowa, May 18.

Minnesota State Society at Minneapolis, Minn., May 20.

Wisconsin State Society at Milwaukee, Wis., May 21.

Yours respectfully,

C. E. SAWYER, M. D.

BOOK REVIEWS.

LEADERS IN HOMŒOPATHIC THERAPEUTICS. *Fourth Edition.* E. B. NASH, M. D., formerly Professor of Materia Medica New York Homœopathic Medical College and Flower Hospital; author of "Leaders in Typhoid," "Regional Leaders," "Leaders in Sulphur," "Leaders in Respiratory Organs," "How to Take the Case," and "Testimony of the Clinic." Cloth, 493 pages. 8"x5"x1¼". \$2.50, net. Postage, 16 cents. Philadelphia. Boericke & Tafel. 1913.

Those familiar with this book will find it improved by prefixing the consideration of each remedy with the leading characteristic symptoms. The book is dedicated to his wife, who did the clerical work because of the author's blindness.

We call attention to two inaccuracies: (1) the spirit of pure homœopathy was *not* "formulated in the words 'Similia Similibus Curantur' by the master;" there is no excuse for the perpetuation of this mistake—Hahnemann wrote *curentur*, and was fully displeased with the English substitution of *curantur*. (2) The word pathogenesis is used too loosely: on page 70, for instance, the following are given as symptoms of the pathogenesis of sulphur—"Dirty, filthy people prone to skin affections;" "scrofulous (psoric) chronic diseases that result from suppressed eruptions;" "particularly efficacious with lean, stoop-shouldered persons, who walk or sit stooped, standing is the most comfortable position." Surely it is unscientific to include these clinical observations as part of the pathogenesis.

There is no rhyme nor reason for the irregular order in which the remedies are presented; reference would be much facilitated were they arranged alphabetically. Yet the index to remedies is very complete and the therapeutic index adds to the value of the book. (See editorial page.)

THE ORGANON OF THE RATIONAL ART OF HEALING. By SAMUEL HAHNEMANN. Translation by C. E. WHEELER, M. D., of the first (1810) edition. Cloth, 200 pages, 7"x4¼"x3¼". 35 cents. Everyman's Library. London, J. M. Dent & Sons. New York, E. P. Dutton & Co. 1913.

A very readable translation, with numerous author's notes and a number of explanatory translator's notes, which immediately follow their respective sections. The 1810 edition was selected as constituting a landmark in medical history and (wisely) because it is less controversial than the later editions. For this reason and its popularization by its inclusion in Everyman's Library, it may reasonably be anticipated that a widespread and first hand familiarity with the Organon, with what Hahnemann really wrote, is assured. The sincere

reader who wishes to form a just estimate of Hahnemann will not be apt to be discouraged by the bitterness which crept into the later editions; he will (or should) be impressed by the scientific tone of the book—constantly bearing in mind the condition of science and of medical thought at the end of the eighteenth and opening of the nineteenth century. This is impressive in the second part of the volume; here we find four essays which throw light upon the state of society in Germany at that time and the chaotic state of medicine into which the *Organon* attempted to bring some order. “Protection Against Infection in Epidemic Diseases,” “Plans for Eradicating a Malignant Fever” and “Suggestions for the Prevention of Epidemics in General, Especially in Towns” (published 1792-5) show him to have been a wise sanitarian of the first order, far ahead of his time and, in fact, abreast of today except that, of course, he lacked the advantages of more recent discoveries.

We recommend this book for the library of every one interested in homœopathy or in the history of medicine, even if possessed of other editions of the *Organon*. The sanitary essays, comprising the second part, are worth reading in themselves.

The Journal of Ophthalmology, Otology and Laryngology

Vol. XX

Lancaster, Pa., and New York, April, 1914

No. 4

EDITORIAL.

THE GENERAL PRACTICIAN AND INJURIES OF THE NOSE.

IT was within the memory of some of us still in practice that the family physician quite universally slighted a "running ear." Thanks to the persistent efforts of specialists in consultations, society meetings, medical journals, the press and conversations, the general profession and also the public are now awake to the dangers of a neglected otorrhea. So also to the dangerous character of ophthalmia neonatorum and gonorrhœal ophthalmia. The importance of the early recognition and proper treatment of iritis and glaucoma is being impressed upon the general practitioner, but with less success.

The attention of our readers is called to Dr. Foster's paper upon Fracture of the Nose (page 120) and each one is urged to lose no opportunity of impressing upon doctors and laity the importance of prompt recognition and treatment of nasal fractures and internal lesions.

The serious results that may—that are apt to—result from intranasal lesions should be laid before the profession, "line upon line, precept upon precept;" papers and cases must iterate and reiterate the lesson.

Unfortunately the general practitioners today are not prepared to detect intranasal lesions or to elevate depressed fracture of the nasal bone, and comparatively few of them are in touch with experts in this line.

With the following outfit the intelligent surgeon need not fear to replace a depressed nasal bone:—Head mirror; nasal speculum; an elevator; half inch strips of sterile gauze, which may be used in a rubber finger cot or impregnated with bismuth subnitrate powder or with calendula ointment; and Z. O. adhesive plaster. Simpson's (or other) nasal splints may be preferred. General anesthesia.

Nitrous oxide with oxygen is the safest anesthetic for cases requiring general anesthesia; ethyl chloride inhalations may be chosen for those requiring but a minute or two—*e. g.*, simple elevation of a nasal bone,—but as consciousness is apt to return abruptly one should be on guard against a sudden jerk of the head.

S. S. McClure's experience has been—"and I think all other editors have had the same experience"—that only writers of inferior talent feel that they are lowering their flag if they consent to any changes in their manuscript. Robert Louis Stevenson was perfectly willing to be edited; an acknowledged artist in words and one who achieved a more finished style than most men, having a very particular regard for style in its high sense. "he would have been very much ashamed of a style that condensation could hurt." "To a man of large creative powers the idea is the thing. He has no feeling that because he has set a thing down one way it must stand forever."

MALIGNANT DISEASES OF THE LARYNX.

GEORGE B. RICE, M. D.,

Boston, Mass.

ALTHOUGH malignant disease of the larynx has probably existed since the advent of man, yet it was not until the discovery of the laryngoscope by Garcia in 1850 that any knowledge of value concerning the etiology or pathology of this affection was acquired.

Two forms of malignant disease of the larynx are recognized: carcinoma and sarcoma. A study of the literature of the subject shows that carcinoma is by far the most common type.

ETIOLOGY.

In both carcinoma and sarcoma of the larynx the cause is obscure. It would seem in some instances that heredity may have been a factor in causation, but statistics do not teach that this is an important element.

In many instances cancerous growths follow a long continued irritation of the tissues of this organ. Thus public singers and speakers, particularly when the voice has been abused by overuse or wrong use, are more subject to the disease than those in other occupations of life. Severe and repeated attacks of laryngitis, the excessive use of tobacco and alcohol, and syphilis are undoubtedly predisposing causes.

Pathologists throughout the world have long been seeking the cancer microorganism, or the cancer toxin, with but little success. Recently Dr. Howard W. Nowell, one of the teachers in pathology at the Boston University School of Medicine, and who is also on the staff of the branch of the Massachusetts Homœopathic Hospital known as the Evans Memorial, has through a series of experiments extending over a considerable period, apparently discovered the cause of carcinoma.

Dr. Nowell has been able by the use of sterile chemical solutions injected into rabbits to produce growths identical with this form of human cancer. Not only this, but he has been able to produce the glandular involvement and the cachexia, followed by death. These solutions contain no microorganisms but are purely chemical substances. To quote from a recent report of Dr. Nowell:

“From cases of operable tumor where a diagnosis of carcinoma had

been positively established, both by clinical and microscopical findings, the freshly extirpated growth was carefully freed from fat and extraneous tissue adhering to it, the material itself was cut into very small pieces and the mass digested with water at one hundred degrees for many hours. When the digestion was complete the mass was filtered to remove the exhausted residues, the clear filtrate containing those portions of the tumor which were soluble in water. By acidifying this filtrate and again boiling, the soluble proteins were coagulated and the precipitate thus formed removed by a second filtration. The protein-free filtrate was exactly neutralized and the solution evaporated on the water bath to a syrupy consistency. This syrup was carefully extracted with pure alcohol and the extract, after the removal of the alcohol by distillation, repeatedly treated with ether. This time the ethereal extracts were collected, the solvent removed by distillation and the final residues again dissolved in water. The aqueous solution was rendered alkaline, boiled for half an hour, and again filtered. On the spontaneous evaporation of the filtrate, long, white, needle shaped crystals were separated, and these were purified by repeated recrystallization from water. These crystals in their purified state form the basis of the subsequent investigations. Whatever the exact chemical constitution of the compound may be, this much is evident, that the substance or substances secured by this method of procedure have been freed from all organic life, and any results obtained by its use must be referable to its own inherent chemical nature, and not to the presence of organized life in many of its manifold forms.

"The results obtained from experiments on rabbits indicated that the tumor extract possessed first, a marked toxicity, and second, the power to reproduce in healthy tissue growths similar to that from which it was itself derived. In the course of the subsequent experiments the latter point was still more strikingly illustrated and these observations may well be described.

"The fifth animal subjected to experimentation was a Belgian hare that weighed 2,800 grammes. A solution of the toxic agent containing four milligrams of the active substance was injected under the skin of the abdominal wall. At the end of ten days a second injection of ten milligrams was made. Ten days later twenty milligrams more were administered in the same manner. By the time this last injection had been made a hard swelling had appeared on the under surface of the neck. This increased in size gradually. Another in-

terval of ten days passed, when a fourth injection, of ten milligrams was made. In one month the animal had received forty-four milligrams of the toxic agent. The tumor which had been observed under the neck of the hare kept on growing until at the time of the animal's death it was as large as a hen's egg. It died on the fortieth day after the first injection. In the meantime the clinical picture of carcinoma had been manifested in the general constitutional symptoms. The post-mortem examination revealed beyond doubt that the animal had developed carcinoma of the thyroid gland. This was shown by microscopical examination. There were also malignant foci in the liver and in various glands throughout the body. Four other rabbits in this second series showed similar results.

"These experiments," Dr. Nowell says, "in connection with the histological findings leave no question that the substance prepared by chemical means and in a manner which wholly excludes organic life is capable of producing a carcinomatosis when injected under sterile conditions into healthy adult rabbits."

The epithelial form of carcinoma of the larynx is by far the most common, and all authorities agree that this disease is most frequently seen between the ages of 40 and 70. The anatomical studies of Luschka in 1871, of Sappey in 1874, of Porrier in 1887, of Most in 1889, and of De Santi in 1904, have conclusively demonstrated the paucity of lymphatics in connection with intrinsic growths, that is growths below the epiglottis, and the more numerous lymphatic connections in the external tumors, that is on or above the epiglottis. A distinction between extrinsic and intrinsic carcinoma is important in making a prognosis. Bellinger uses the terms subglottic and supra-glottic, instead of intrinsic and extrinsic. In the first class even advanced cases do not always show signs of lymphatic involvement, while early lymphatic invasion is the rule in the latter class. This lymphatic distribution, then, is largely accountable for the success attending operations on the intrinsic forms of cancer and the failures to cure the extrinsic forms by the same means.

The symptoms of malignant laryngeal disease are quite definite and significant; they are: hoarseness, spasmodic pains in the pharynx shooting into the ear, redness on the affected side, tumefaction and partial fixation of the vocal band. If occurring in the epiglottis in the early stage of the disease the only symptoms may be the shooting pains, a sensation of a foreign body in the throat.

TREATMENT.

So far our only hope of curing patients with undoubted cancer is an early and radical operation. The writer has read with much interest the statements of one of the members of this society, Dr. Teets, who claims much success in operations performed by the endolaryngeal route, and by after-applications to the base of the neoplasm of chromic acid, then using a spray of thujarine several times daily. The experience of others and myself in this form of treatment has not been gratifying, although the thuja does seem to exert a beneficial effect upon several forms of laryngeal tumor, particularly polypoid and papillomatous tissue.

The consensus of opinion is strongly in favor of early and radical operation by the external method. Thyrotomy is to be chosen when the growth is limited in its extent, is intrinsic, when it does not involve the deeper tissues, and there is no glandular involvement. That there is a period when these indications are present goes without saying, and so again is emphasized the great advantage of early diagnosis. Partial laryngectomy is indicated when the deeper tissues are involved with invasion of the cartilaginous framework; complete laryngectomy when the whole larynx is affected by the malignant neoplasm.

Nine cases of undoubted carcinoma of the larynx have been operated by the writer by different methods, five of these died sooner or later of the disease. Three of the cases were inoperable by the radical method because of extensive involvement of the surrounding structures with glandular involvement. One was operated by ligating the external carotid by Dr. Dawbarn's method, which he calls the starvation method, one by the repeated use of a needle charged with d'Arsonval current, as suggested by Dr. Bernstein, of Philadelphia, and by the application of thuja together with its internal administration, and one by injections of Dr. Alexander's Cancer Solution, consisting of iodine, and guaiacol with an oily base. Three cases were operated by partial laryngectomy and were unsuccessful, though no immediate deaths from the operations occurred. The three other cases were seen in the early stages and were operated by thyrotomy; these made good and apparently permanent recoveries. One is in good health eight years following the operation, one died in one year of apoplexy, and the other was operated before the society two years ago this month and is in apparently good health. My successful cases are as follows:

CASE I—Miss M., aged 56, a teacher, consulted me Sept. 21, 1905.

Her general health was good. She told me that the preceding May she had been troubled with persistent hoarseness, better in the morning but increasing with the use of the voice during the day. The hoarseness improved a little while resting in the country in August, but on returning to her home near Boston the difficulty in using the voice became more pronounced. There was no pain in the throat, but a very constant desire to clear it, with no relief from the effort. Examination of the larynx disclosed a reddened and thickened left vocal band which did not adduct on phonation as readily as the other.

The patient was under close observation until November twenty-fifth, receiving various internal remedies, with daily inhalations, and applications of thuja and arygrol to the affected tissues. The hoarseness remained about the same, but November 9th she complained of neuralgic-like pains on the diseased side of the throat. I did not see this patient again until January 25th as she decided to try another form of treatment.

At this visit it was noticed that the vocal band was increasingly sluggish, the voice more hoarse, and the local redness more marked. Operation was now suggested, but the patient refused. For three weeks under treatment the condition did not noticeably change for the worse, but the voice became higher in pitch and the shooting pains were more frequent. The patient now consented to operation.

March fifth, at the Massachusetts Homœopathic Hospital, under ether anesthesia, Dr. N. H. Houghton assisting, an incision was made beginning at the hyoid bone and extending to the suprasternal fossa, exposing the thyroid and cricoid cartilages and the upper rings of the trachea. The upper wound was packed and a low tracheotomy performed. The thyroid cartilage was now split, and a piece of tissue removed from the diseased vocal band, which was examined by Dr. Watters our pathologist, who pronounced the growth to be carcinoma. Following this hasty report all the soft intrathyroid tissues on the affected side were removed to the cartilage. This was accomplished by scissors and curette. The thyroid cartilage was brought together, the soft parts closed with silk stay sutures and catgut coadaptation sutures, and the tracheotomy tube left in.

Two days later the tissues about the line of primary incision became odematous, but laryngoscopic examination showed the intralaryngeal structures to be in good condition, so the tracheotomy tube was removed. The next day the emphysema had extended to the sides

of the neck and the lower part of the face, but the patient's general condition remained good and the temperature was not over a hundred. The emphysema gradually disappeared, but the wound broke down in several places and discharged freely. Echinacea was now given for two days and then replaced with silicea. On the sixteenth the wound looked much better and a tickling cough which had proved an annoyance partially subsided. On the twentieth the patient sat up, and on April fifth left the hospital in good condition. April 25th a small gray tumor appeared in the left side of the larynx, gradually increasing in size, and on June 23d there was noticed a slight wheezing sound on respiration. A piece was removed and submitted to Dr. Watters who reported it to be a fibrous polyp. No treatment was instituted; in two or three weeks the growth had entirely disappeared and did not return. The patient developed a loud whisper after a time, and has remained in good health. She was last seen on May fifth of this year, eight years after operation. The larynx was at this time entirely free from signs of recurring malignancy.

As subsequent examinations of the tissue removed at the time of the operation were carefully made and the diagnosis of malignancy confirmed, the writer feels that the diagnosis of carcinoma was correct.

CASE 2—Mr. T., age 53, occupation travelling salesman, consulted the writer Jan. 4, 1911. He stated that he had been troubled with hoarseness for about a year. This was not preceded by cold or influenza, but began gradually. There had been no cough, or marked desire to clear the throat. The hoarseness however had increased to such an extent that talking was an effort and caused local and general fatigue. The patient's general health was fairly good, he was regular in his habits so far as possible, did not use liquor to any extent, and used tobacco but moderately.

An examination disclosed small narrow nasal passages, a clear nasopharynx, a relaxed soft palate, with a large club-shaped reddened uvula. The larynx showed redness of the right vocal band, with restricted motion, and the presence of a growth about as large as a raisin seed, having a flat base and situated about midway on the edge of this structure.

Although the writer could obtain no specific history, the patient received for some weeks mixed antisiphilitic treatment in moderate doses, together with local applications of thuja 35 per cent. and argyrol 20 per cent. Jan. 17, Mr. T. reported that on the preceding day he had

suffered from a violent headache, followed by slight numbness of the left arm. Jan. 25, following the swab application there was a little bleeding. On Feb. 15 the condition had not improved, and the patient was told of the necessity for an accurate diagnosis and of the needs of immediate operation in case the report was unfavorable.

The patient consented to this plan, and a piece of tissue was removed and sent to Dr. Watters. On Feb. 18 Dr. Watters reported the growth to be squamous-celled carcinoma. The patient was told of the urgent need of radical surgical measures, but contrary to his previous acquiescence now refused. March 1 the vocal band did not adduct at all on attempted phonation, and the tissues bled easily on coughing or from use of the swab. Ten days later the patient reluctantly consented to go to the hospital.

March 13, Dr. Conrad Smith assisting, a low tracheotomy was performed, through an inch incision, and through another incision from the thyroid notch to the cricoid cartilage the thyroid cartilage was exposed, split open, and the soft part removed on the affected side. Bleeding was very profuse but was controlled by hot peroxid applications. The thyroid cartilage was then closed, and the soft tissues sutured over it, the patient leaving the operating room in good condition.

That night the writer was hurriedly called to the hospital because of excessive bleeding. The patient was given a little chloroform, the thyroid cartilage opened, and the larynx packed with gauze. The next day the gauze was removed and the tissues again closed. No further bleeding occurred, although the patient began to be troubled with violent attacks of coughing which were controlled with one-fourth grain doses of codea. The thyroid wound did not close kindly, but broke down and finally closed by granulation. The tracheotomy tube was removed on the fourth day and the patient left the hospital on the eighteenth day, in reasonably good condition.

May 1st the intralaryngeal tissues looked well and he could converse in a loud whisper. The loud whisper increased as time went on to a husky voice, which could be used without much effort. June 6, 1912, the patient suffered an attack of apoplexy, with paralysis of the left side, and died in four days. He was seen a few days previous to his last illness, when the larynx was found to be in good condition, without evidence of recurrence.

CASE 3—May 13, 1911, by the courtesy of Dr. E. R. Johnson, Mr.

W., age 44, occupation rivet maker, consulted the writer for hoarseness of some months' duration. The early symptoms were difficult to obtain in detail. Examination showed a reddened right vocal band and a movable growth situated at about the junction of the anterior and middle thirds of this organ. The writer thought the growth to be a papilloma, and suggested immediate operation. May 20 the growth was removed with a guillotine, and sent to Dr. W. H. Watters for examination; much to the writer's surprise the report of carcinoma was returned. Three weeks later Dr. Johnson reported a recurrence of the growth, with increased redness of the vocal band and partial fixation.

A radical operation was suggested, and the patient in consideration of having the operation free of charge consented to allow the writer to perform it at the clinic of the O., O. and L. Society to be held in Boston July first.

The technique of this operation was the same practically as in case 2, a preliminary tracheotomy through one incision, a thyrotomy through a second incision, with removal of all diseased tissue.

No after complications occurred in this case, except a thyroid fistula which persisted for some months. The patient was seen by the writer in September of that year, and there have been reports from Dr. Johnson from time to time. The last report was on May 13, 1913, in which he states that there was no recurrence of the disease and that the patient could converse audibly.

The writer does not feel like drawing definite conclusions from these few cases, but three points should again be emphasized:

- 1st. The need of early diagnosis.
 - 2d. The fact that the disease is at one time localized.
 - 3d. The necessity of early radical operation.
- 220 Clarendon Street.

DISCUSSION.

A. S. HANSEN: Possibly a few points can be enlarged on in discussion for the benefit of the members, but surely stress must be laid on early diagnosis and early operation. According to some statistics we have 7 carcinomas to 1 sarcoma in the larynx, and for every 100 carcinomas in the general body we have one laryngeal, and also that fortunately the intrinsic variety would appear to be the most frequent. The reference to the research work of Dr. Nowell is very interesting, and this work will surely be of value in the solving of the question, "What is Cancer?" But, even if the Cohnheim theory has been discarded it would seem that there must be a biological condition previous

to the action of the exciting cause, be this the excessive use of the voice, toxins, among which Dr. Nowell's possibly is the most potent, or any other irritant.

The theory of Dr. Nowell does not necessarily exclude the germ theory of cancer. The short time of the artificially induced cancer would also make it questionable whether we have exactly the same condition that we have in ordinary pathology.

The relation of the lymphatic system of the larynx to carcinoma is very interesting as given by Ballenger in his work. St. Clair Thomson in his recent work makes this statement:

"Metastases are very rare, though a few cases have been recorded in which secondary affections of the liver, stomach, kidney or lung were found without recurrence in the larynx which had previously been operated on. This freedom of the larynx is ascribed to the peculiar arrangement of the lymphatics within the larynx. Although very richly developed, they do not anastomose with neighboring lymphatics but form a network of their own which empties into two small glands on each side."

Moure seems to pay less attention to the lymphatics. He states that: "extralaryngeal cancers being more liable to irritation (passage of the bolus, movements of deglutition) have a more rapid course than those situated inside of the larynx."

In regard to early diagnosis, even a continuous discomfort in the throat of a patient over forty should make one keep such patient under close observation.

"An important symptom which is seldom absent in cancer of the posterior region is the loss of laryngeal crepitation. When the larynx in the normal state is moved laterally a characteristic crepitus is perceived. This disappears on one or both sides as soon as the fibro-cartilage (cricoid) becomes infiltrated."—Moure.

Dr. Rice has laid stress on early operation, which of course is the essential part of treatment. But it appears from the report of cases that the patient is very reluctant to submit to an operation, so the future will likely bring us cases that have been neglected, not so much from lack of early diagnosis as from procrastination on the part of the patient. In fact the few cases I have seen in private practice have been too far advanced for radical operation.

I for one should be glad to get points on the treatment of these unfortunate cases. It is of course taken for granted that the general hygiene is looked after and that such local remedies as adrenalin, orthoform, cocain are used for distressing symptoms.

How much can be done in an operative way to relieve dysphagia and difficulty in breathing? What can be done to relieve pain beside hypodermics of morphin? Will the x-ray be of any benefit as a palliative remedy? Will the toxin developed and used in Dr. Nowell's experiments be of any benefit in minute doses even as a palliative?

I would like to elicit a discussion on these questions.

LABYRINTHINE TESTS.

GEORGE W. MACKENZIE, M. D.,

Philadelphia, Penna.

THE impression gathered from letters received at odd times from the President and the Secretary, is that they desired me to present to the Society a practical paper on the labyrinthine tests. I shall therefore omit as far as possible reference to the theories advanced concerning the reactions of the inner ear. To narrow the theme still further, I shall omit reference to the hearing function and tests and content myself with a brief description of the tests used in determining the functions of the vestibular sacs and semi-circular canals, especially the latter.

The class of cases to which the labyrinthine tests are applicable as an aid in diagnosis enlarges with one's experience.

Before making any of the tests it is important that we note the presence or absence of spontaneous nystagmus, and if present its character and direction. In making observations for nystagmus it is well to have the patient so placed that the proper amount of light (direct or reflected) falls upon the eyes, but at the same time not an excessive amount, for then it might be painful to the patient.

With the eyes properly illuminated the thumb of the observer's left hand is applied to the upper lid of the right eye, while the fingers rest comfortably on the patient's forehead; and vice versa for the left eye. With the thumb the upper lid is elevated sufficiently to expose a fair portion of the sclera above the corneal limbus, taking care not to expose the eyeball too long at one time for by so doing the cornea becomes dry and the patient is likely to wince. To avoid this discomfort to the patient the upper lid should be depressed occasionally with the thumb, with the object of keeping the eyeball properly moistened.

To aid us in getting a better view of the sclera, or rather a view of the sclera near the equator of the eye, the head may be tilted slightly backward while the patient is directed to look forward in the horizontal plane. This puts a slight strain on the depressors of the eyeball, but not sufficiently to produce any material influence upon a horizontally directed nystagmus.

Spontaneous nystagmus is not considered to be present unless it is manifested while the patient is looking straight ahead. For instance, horizontal or rotatory nystagmus to the left when looking intently to the left or to the right when looking intently to the right is of no particular value from our standpoint unless it is decidedly more pronounced to one side than to the other; in that case it also would be evident when the subject looks straight ahead. Although a nystagmus of so-called labyrinthine origin will manifest itself with the patient looking straight ahead, it is nevertheless more pronounced when he looks in the direction of his nystagmus than when he looks in the opposite direction.

When examining for spontaneous nystagmus, do not come to the conclusion that nystagmus does not exist if the eye movements are not apparent during the first few seconds of our examination. There are many cases of spontaneous nystagmus of so slight degree that the movements do not repeat themselves oftener than once in 8 or 10 seconds and then the movement does not exceed more than a millimeter or two at the equator of the eye. If we have reason to suspect spontaneous nystagmus from the history of the case or otherwise and we are unable to detect its presence at the time, we may provoke it more or less by taking the patient's head in our hands and shaking it to and fro or laterally; after this we may repeat our examination.

A spontaneous nystagmus of semicircular canal origin is indicated by a bilateral jerking to and fro movement of the eyeballs in a constant and definite plane and direction. The direction is indicated by the direction of the quicker movement. Furthermore, as intimated above, it must be evident when the patient looks straight ahead, when all the eye muscles are free of any undue strain or tension.

The plane and direction of the spontaneous nystagmus should be noted on the record and kept in mind while making the tests to be noted later.

(a) Turning tests.—Independent of the theories offered as to the cause, the fact remains that normal individuals, with very few exceptions, manifest during turning (with eyes open or closed) jerking movements of the eyes in a corresponding plane and direction, and after turning, jerking movements in the same plane but in an opposite direction to the turning, lasting for a more or less definite length of time, depending in a measure upon the number of turns.

For clinical purposes, Barany has found that the maximal duration

of after-turning movements (after-nystagmus) occurs generally after 10 complete turnings of the subject (360 degrees). Accordingly most of us have come to adopt the practice of examining for after-turning nystagmus according to his method, that is, turning the subject 10 times at a uniform speed, one complete turn (360 degrees) to occupy about 2 seconds of time.

It is a rule with me in making the turning tests to examine for both the horizontal and the rotatory after-turning nystagmus. When making the tests for horizontal after-turning nystagmus, the patient is directed to sit on a revolving chair used for the purpose and told to hold fast by the side arms. The patient's face is directed forward and he is told to keep the eyes closed during the turning and look straight ahead at a selected distant object after turning. The patient is then rotated at uniform speed around a vertical axis, ten times (3600 degrees). At the moment the turning ceases the resulting after-nystagmus is noted and timed with a stop watch.

Rotatory after-nystagmus is produced with the patient's head inclined forward 90 degrees during the turning. The observation and timing of it however are made with the patient's head erect and eyes directed straight ahead.

The average duration of horizontal after-nystagmus in normal individuals is 24 seconds. The average duration of rotatory after-nystagmus in normal individuals is about 23 seconds. The figures vary less with horizontal than with rotatory after-nystagmus.

If a patient shows a diminution in duration of after-nystagmus to the right side to eight seconds or thereabouts and to the left to sixteen seconds or thereabouts, it indicates a destructive process of the right inner ear or nerve. A relative diminution on both sides but more marked to one side than the other suggests a *relative* destruction on the side corresponding to the greater diminution.

A relative increase in the duration of after-nystagmus to both sides, but to one side more than the other, indicates a pathologically irritative process (a congestion) on the side corresponding to the greater increase.

In a patient with spontaneous nystagmus, for instance to the right, the effect after turning to the left is to increase the existing nystagmus to the right. The duration of reaction is therefore estimated from the time the turning was stopped until this increase of nystagmus ceases and the nystagmus settles down to what it was prior to the

turning. In the same patient, after turning to the right, the reaction to the left is estimated from the time the turning was stopped until the altered condition (be it nystagmus to the left or cessation of nystagmus to the right or mere diminution of nystagmus to the right) ceases and the previous degree of spontaneous nystagmus to the right re-establishes itself. Both of these conditions, an increase of nystagmus to the right side or a diminution of the nystagmus to the left side, indicate a positive reaction. No alteration in the character and direction of the existing nystagmus would indicate a negative reaction.

This same method of observation should be applied in the making of the other labyrinthine tests where spontaneous nystagmus exists.

The turning test, like the galvanic, is a quantitative test of the labyrinthine function, whereas the caloric test is a purely qualitative one.

The caloric test is made by applying heat or cold to the inner wall of the middle ear directly, as in the case of a fair sized perforation of the tympanic membrane, or indirectly in the case of intact membrane. For practical purposes, the application of cold in the form of solutions syringed into the external canal produces a more pronounced reaction with a less degree of discomfort to the patient than the application of heat.

We shall therefore describe the effect of cold, remembering that the resulting nystagmus is in a direction always opposite to that produced by the effects of heat. Cold water syringed into the right ear with the head erect, normally produces a rotatory nystagmus or rather a combination of rotatory and horizontal nystagmus to the opposite (left) side. Should this nystagmus not follow after syringing water into the ear at or about 70 degrees for several minutes, there is a strong probability that the inner ear or nerve of that side is out of function. In this event it is good practice to try again, using colder water and for a longer period. Failing a second time and feeling sure that there is nothing in the external canal to prevent the solution from reaching the drum membrane, when that is intact, or middle ear, in case of perforation, we may feel reasonably certain that the normal function is absent on that side. In the event of pronounced spontaneous nystagmus to the left, resulting from some recent destructive process of the right inner ear or nerve, it is not always easy for the beginner to tell whether the nystagmus to the left is increased or unaffected by the injection of cold water into the right ear. In

such a case one may resort to the use of hot water, which produces a rotatory nystagmus to the same (right) side. Better still, I find that the application of cold water into the right ear with the patient lying on the left side of the face (right ear uppermost) to be more satisfactory; for the cold water thus applied normally produces a pronounced horizontal nystagmus to the same side.

If by this last mentioned method no change in the existing nystagmus to the left occurs, we may safely put it down as a negative reaction of the right side.

Although the caloric test is a valuable one in helping us to tell a functionating from a nonfunctionating inner ear and nerve, it however tells us nothing about the varying degrees of diminished function that fall short of complete destruction.

The galvanic test is particularly useful in the differential diagnosis of inner ear from nerve affection. The test is a sensitive one and requires considerable experience to interpret the findings. A description of the various findings and their interpretations would consume too much time for a limited paper. I would prefer therefore to refer those of you who may be interested, to former papers on the subject by the writer.

The so-called fistula symptom is manifested typically in those cases of middle ear suppuration where from any cause there is an open path of communication between the tympanic cavity and the inner ear. The symptom is produced by a sudden increase or diminution of air pressure in the middle ear cavity. A suitable instrument for making the test is a Politzer or better a Gellé bag fitted with a foot of rubber tubing, on the distal end of which is mounted a hard rubber tip which fits snugly into the external canal. The tip is introduced into the external canal snug enough to make it air tight. The bag is then squeezed firmly, which produces an increase of air pressure in the tympanic cavity. Should the Eustachian tube be closed so that the air does not escape by that route, a fistula of the osseous labyrinth with intact membranous labyrinth may be told by a pronounced nystagmus the plane and direction of which depends upon the location of the fistula. Upon releasing the pressure, or better still by applying suction, a nystagmus in the same plane but opposite direction to that of compression results.

The symptoms is not entirely reliable, for there are cases where the symptom has been found to be present where no fistula has existed; again the sign may be negative in a case where a fistula positively exists.

The symptom naturally must be absent in a case of fistula where the membranous labyrinth is already destroyed.

After all that may be said to the contrary—if the symptom is very positive in a case of middle ear suppuration there is a strong probability that a fistula exists.

Concerning the various tests there is much that has been left unsaid, not to mention the various equilibrium tests, due to the time limited for the presentation of so broad a subject.

1831 Chestnut Street.

DISCUSSION.

GEORGE McBEAN: In justice to Dr. E. J. George and myself I would like to speak of the ear case demonstrated by Dr. Mackenzie in the clinic at the college; there were some members present who did not understand all the previous history. When we examined the patient two weeks ago there was a marked vertigo without spontaneous nystagmus and with perfect hearing. The caloric test with ice water in the right ear, which had had an acute infection three months previously, did not respond after eight minutes' irrigation; the left ear responded in one and one-half minutes producing nystagmus to the opposite side and increased vertigo. The patient had three blood examinations made also; the first showed a decided leucocytosis with 81 per cent, neutrophiles. The last count made yesterday was about normal. The skiagrams showed the mastoid cells in the right ear decidedly shadowed as compared to the left ear. She also carried a slight temperature for the last two weeks. All this made us suspicious of trouble in the mastoid and possibly also a circumscribed labyrinthitis.

Aug. 1, 1913. The patient still has vertigo and has developed a peculiar gait. Dr. Julius Grinker has made a careful neurological examination and rules out everything except trouble with the vestibular apparatus. Dr. Alfred Lewy also examined her at the Illinois State Eye and Ear Infirmary on July 31. He finds, as we did on our first examination, that the right vestibular apparatus is much less sensitive than the left to the caloric test and that her hearing is perfect when tested with the Bezold-Edelmann set and the Struycken-Schaefer monochord.

ALFRED LEWY: I compliment Dr. Mackenzie upon his excellent presentation of labyrinthine tests. There is one remark he made that perhaps should be modified. He said that spontaneous nystagmus will be manifested when the head is straight. I happen to have a case in which that does not occur. A young lady of seventeen years developed serous labyrinthitis after a mastoid operation. The small amount of hearing that she had previously was lost. I watched her closely for a few days and then irrigated the ear and found the labyrinth responded to hot irrigation. The diagnosis was serous labyrinthitis. At first she

could not walk but today she is pretty well; there is no vertigo but she still has spontaneous nystagmus to the well side, only on extreme abduction. This is one case that does not fit in with the doctor's description of spontaneous nystagmus; as a rule his statement is right, but this is an exception.

DR. SUFFA: The thought arises in my mind when you get increased nystagmus in extreme lateral position of the eye, if muscle imbalance exists, that the amount of nystagmus would at least be influenced thereby, and that this feature should be taken into consideration or at least investigated.

W. L. BALLENGER: I have been intensely interested in this presentation of the subject by Dr. Mackenzie because I know that he knows as much or more about the labyrinth than anybody else in America. We have so much poor literature upon this subject, cases poorly reported and so on, that when we are called upon to listen to a paper we are liable to get nystagmus and vertigo ourselves. We should remember that the theoretical side of the subject, while interesting and important, need not deter us from making practical deductions. One thing we may deduce is that while spontaneous nystagmus may not prove that the labyrinth is diseased, its absence does not prove that it is in a healthy condition. Sudden loss of balance of tonus between the two labyrinths causes nystagmus and ataxic symptoms. After a few days or weeks some sort of compensation takes place and then the nystagmus disappears, the labyrinth not taking any part in the subsequent symptom. Another thing, you can induce nystagmus by the turning test without its meaning anything: that is, it does not mean that a pathological condition is present; it is only when taken in connection with other signs that it becomes of value. If you turn a patient to the right and get nystagmus of the opposite side lasting 40 seconds, and then when you turn the patient to the left you get nystagmus of the opposite side lasting 20 seconds, you have a sign and an indication of value in making a diagnosis. If there is a discrepancy between the two sides of more than a ratio of 2 to 1 it means that the affected labyrinth is totally destroyed; if the ratio is 2 to 1.5 it would indicate inhibition, but not destruction. Modifications of the nystagmus produced by turning have to be weighed carefully in order to throw light upon the condition of the internal ear. We must remember also that we have two types of tests, the quantitative and the qualitative.

I regard the caloric test as both qualitative and quantitative. The qualitative test simply shows whether there is any evidence of imbalance between the two labyrinths as shown by nystagmus; it answers the question, with a "yes" or "no" as to whether the balance is perfect. The qualitative test answers the question as to how much stimulation, how long an irrigation, how much cold water in the affected ear is necessary to produce nystagmus of a given duration as

compared with the unaffected ear. The quantitative test involves the duration of the nystagmus and the violence of the manifestation. So I consider the caloric test as quantitative as well as a qualitative test. I have been studying the phenomena produced by these tests for some years with the view of writing a chapter for my text book. There is no end to the problems that arise in considering it. Dr. Mackenzie is a master at this kind of work and I compliment him upon his paper.

DR. MACKENZIE: In justice to Drs. McBean and George I would like to add that from the history of the case, the leucocyte count, skiagraph, temperature, and apparently negative reaction obtained from applying cold water for a long time to right ear there was some form of internal ear trouble at the time the tests were made. This I believe and this I said yesterday. That there was not present a destructive process is shown by the fact that she has got better. The evidence shows that she had labyrinthine conditions of a functional or more or less temporary nature; not a permanent condition. The fact that the patient heard well and had good hearing throughout shows that the affection was not a diffuse destructive labyrinthitis. It is limited therefore to a circumscribed irritation or inflammation of a mild type. Dr. Lewy brought out an interesting point that was partially answered by Dr. Suffa: his patient had pronounced spontaneous nystagmus to the well side but he could not see any nystagmus when the patient was looking straight ahead. In a paper on the subject a few years ago I said that there were a few patients who were exceptions to the rule. In that paper I spoke of a patient who did not have nystagmus but did have conjugate deviation of the eyes. The slow movement or component was manifested in one eye and it lasted as long as the nystagmus would have lasted. Now for a possible answer: in another of my papers I quoted an observation of Stewert's that patients will have nystagmus in the direction of the weak eye muscle when looking in the direction that causes contraction of that muscle, namely, towards the weak side. Again in that same paper I referred to nystagmus produced by attempts at fusion with prisms. If the patient looks straight ahead at a light he can see the light jump and if you look at the eye through the prism you can see the eye movement very distinctly.* Stewert† observed it first in cases of weak eye muscle where a patient with one weak eye muscle will have a greater degree of spontaneous nystagmus when looking in the direction of that muscle than when looking in the opposite direction. But in a straight uncomplicated case, I have always been able to find nystagmus when the patient is looking ahead, if there was any labyrinthine destruction.

My object was to point out an error in Barany's work: you will

*This observation is my own.

†*Deutsches Medicalzeitung*, 1895, p. 511.

recall that he has given us figures running from 20 seconds up to 120 seconds and in striking a normal average he puts it at 40. As the result of experiments, my figures in normal individuals do not vary more than 4 to 5 seconds in duration for turning nystagmus. Barany has fallen into this error because he has made his experiments with the patient looking to the side. A normal individual will have some nystagmus when looking to one side strongly and this phenomenon will be more marked in neurasthenics than others. I avoided this error by having the patient look straight ahead. If you are observing a patient by this method and do not see to it that the eye muscles are in a position to ensure relaxation, you are not getting a pure reaction; you are getting a more or less mixed condition. By looking to the side you have the confusing factor of unequal muscle tension. That is why his figures are so high and variable and mine are so much lower and more constant.

Dr. Ballenger brought to our attention the supposed fact that the caloric test is both quantitative and qualitative, but such is not the real fact, for we can always count on differences between the two sides. It is highly improbable that an individual would have bilateral disease of the same degree, intensity and type. For instance a perforated drum membrane on one side would permit of a greater degree of reaction with cold water than its fellow with an intact drum membrane because of the more direct influence of the cold water in the ear with partial or total loss of membrane. In such an event the greater degree of reaction from the affected side would make the normal side appear less than normally reactive from the quantitative standpoint. So I could go on multiplying instances to show the untrustworthiness of the caloric test as a quantitative one but will not take up your time to do so at present, as I have already covered them in my book on "Labyrinth Papers."

On the other hand the turning tests are purely quantitative as I have attempted to show in my paper and have pointed out elsewhere. If a patient should show an extremely long duration after-turning nystagmus to the right side and a shorter but relatively normal one to the left we know that the reaction is longer on the right side because the right ear is more irritable than the left; it shows that the right ear is over irritable. With the caloric test with cold water we would get a positive reaction but it would not tell us the degree of quantity.

TESTS OF HEARING.

ALFRED LEWY, M. D.,

Chicago, Ill.

1st. The hearing as compared with the normal, as ascertained by the whisper (using residual air only in order to preserve uniformity), the voice if the whisper is not heard, or the acumeter.

2d. The bone conduction. The hearing for the sound of the tuning fork on the vertex or forehead as compared with the known normal for that fork. (Schwabach test.) The best fork for this purpose is the Edelmann A—108.7 double vibrations per second. For practical purposes a good c1 or d1 without overtones will do. The c2 commonly used is I believe so high that it is somewhat difficult to distinguish between air and bone conduction, moreover it is seldom free from overtones. (A new c2 has recently been brought out which is claimed to be free from these faults.)

3d. The reference of the sound of the fork thorough the cranial bones to one or the other ear (Weber test). This is of value in confirmation of the other tests; if inconsistent it should be disregarded. It is of great value in determining labyrinthine disease when, in a case of suppuration, the sound having previously been referred to the diseased ear changes and is referred to the well ear.

4th. The relative bone and air conduction. (Rinné test.) The best fork for this purpose is the Edelmann a1, 435 d. v. C1 and d1 without overtones are also practical. The criticism made above of the c2 applies also here. The terms "positive Rinné" and "negative Rinné" are given too much weight. One may have a negative Rinné in nerve deafness, and vice versa. It is the relative air and bone conduction as compared with the normal for the fork used which gives the desired information.

5th. The hearing for low tones. This is most accurately found by first using the lowest fork, C2, and trying each higher one until one is heard (the patient's eyes being closed meantime); practically one may use the C—64 d. v. without overtones, and determine the length of time it is heard as compared with the normal. The lower tones are mass vibrations and are transformed by the conducting

apparatus into molecular vibrations. The relation of the area of the membrana tympani to that of the footplate of the stape is about the same as that of the specific gravity of water to air. The mass vibrations are received from an aerial medium and transmitted to the perilymph; hence their relationship and presumably hence the loss of low tones when the conducting apparatus is disordered.

6th. The hearing for high tones. The high limit may be determined by the Galton whistle, the Struycken-Schaefer monochord, or one may use the c1 or c5 fork, comparing the length of hearing with the known normal.

7th. The repetition of test 1 after inflation.

In addition there is the Gellé test to determine fixation of the stapes: when increased pressure is brought to bear on the drum membrane there is no alteration in the hearing if the stapes is ankylosed. This test is only confirmatory and is difficult in practice. Bezold states that inability to hear below 32 double vibrations is indicative of stapes ankylosis.

The Bing test: the hearing is better through the Eustachian catheter in position than through the external auditory canal. This is supposed to indicate thickening or adhesions of the membrana tympani, malleus or incus. My experience with it is limited and unsatisfactory.

The clinical history has special reference to nonsuppurative family deafness and to noisy occupations. The general physical examination seeks especially evidence of syphilis, arteriosclerosis, anemia of autointoxication. The local examination is for evidence of previous inflammation, suppurative or nonsuppurative, thickening, atrophy, scars, perforation, discharges, mobility, transparency, color and luster of the membrana tympani; the permeability of the Eustachian tube; the condition of the nose, its accessory sinuses and of the nasopharynx. All of these are suggestive but not conclusive as to the cause of the deafness.

For ordinary diagnostic work one will usually succeed with three good forks: a low one, with clamps to control overtones and of sufficient intensity and duration of tone for estimating the low tone limit (like the C); a medium one of similar qualities, for testing the relative bone and air conduction (this is d1); a high one for estimating the high limit (c4 of good intensity and duration will do). A known normal standard for each of these is necessary. For scientific work and for testing the entire range of hearing, as for instance in

deaf mutes, one should have an Edelman-Bezold set, supplemented by the Galton whistle or the Struycken-Schaefer monochord.

DIAGNOSIS.

(1) Ordinary middle ear deafness:—Changes in the membrana tympani; evidence of present or past suppuration; tubal obstruction; loss of hearing for low tones; relative increase in bone conduction, slight or no loss of upper tone limit; improvement of hearing on inflation, if adhesions are not too firm.

(2) Spongification:—Hereditary: lustrous, semitransparent membrana tympani; patent tube; loss of tickle sense in canal. In (a) stapes ankylosis: great loss of lower tone limit, increase in bone conduction, moderate loss of upper tone limit, no improvement after inflation. (b) When lesions not in region of stapes: same history and local findings, but hearing tests as in the nerve deafness.

(3) Nerve deafness:—Noisy occupations; toxemias; arteriosclerosis; syphilis; hysteria; neurasthenia; intracranial lesions. Shortened bone conduction, diminished hearing throughout entire scale, or loss of upper limit with relative preservation of lower; no improvement on inflation.

(4) Combined cases:—Old middle ear cases with or without suppuration, with loss of upper tone limit and absence of relative increase in bone conduction; tubal catarrh with shortened bone conduction and improvement on inflation (anemia and neurasthenia). (The last group was described by me in the *Laryngoscope*, March, 1913.)

TUNING FORK TESTS.

That the treatment of deafness should be dependent upon an accurate diagnosis is acknowledged by all otologists, yet the correct and systematic use of instruments of precision for this purpose is practiced by only a minority of them. The value of the clinical history and clinical findings is great; yet these alone, or together with the watch, whisper or voice are insufficient without the systematic use of tuning forks and sometimes other instruments, such as the Galton whistle or the Struycken-Schaefer monochord. In speaking of these as instruments of precision, I am aware that in their practical application the psychological element enters, but the otologist (like every good physician) is necessarily somewhat of a psychologist. That accurate diagnoses can nearly always be made by systematic tuning fork tests has been amply proven by many careful investigators, and by the

practical adoption of these tests by every otologist of standing, at least in Europe.

The essentials of a good fork are: it must be of accurate pitch and practically free from overtones, and of such intensity of sound and duration of vibration as will serve its purpose in a hearing test. The diagnosis is based upon heredity; personal history; physical examination, both general and local, and the hearing tests.

Treatment depends not only upon a diagnosis of the pathology of the deafness, but upon a determination of its underlying cause if possible.

711 Marshall Field Annex.

DISCUSSION.

PRESIDENT SHEPARD: I am sorry that the essayist did not give some points on prognosis in mixed cases. I am puzzled on that question myself.

W. L. BALLENGER: I have really nothing new to say on the subject; the essayist has covered the ground fully. I recommended the c2 fork for the Weber test not for the Rinné. For the Rinné test I use the small a fork. I have used the large A fork a good deal for the Schwabach test, placing the fork on my own head and holding it there until I can hear it no longer, then placing it on the patient's head and seeing if he can hear it longer than I do. My bone conduction is supposed to be normal.

The thing for me to say is to affirm the very great aid that these tests afford in arriving at an intelligent opinion as to the exact condition of the organ of hearing in old and difficult cases of deafness. As Dr. Lewy has pointed out, the drum head must be examined and its condition taken into consideration in connection with these tests; if you have abnormal response to the tests, and the drum head is normal, it means something different from what it does with retraction of that membrane, for you get a changed drum head in ordinary middle ear deafness and do not get it in internal ear deafness or in some cases of otosclerosis.

In otosclerotic processes when limited to the oval window, you find the same response to the tests that you do in ordinary middle ear deafness, but in one the drum head is perfectly normal while in the other it is retracted or otherwise changed. These points give us data for arriving at an opinion that is worth something that is not a mere guess. Those cases having a mixed otosclerotic process around the oval window involving the first whorl of the cochlea have loss of high tones, negative Rinné, signs of nerve involvement and of middle ear deafness. When you get these two groups of signs you can be pretty certain that it is a mixed case of nerve degeneration together with middle ear trouble. This may not be absolutely true but is nearly enough so for practical work.

I have used forks and whistles for fifteen years in every private case that has come to my office. Now in the difficult task of drawing conclusions from these tests, you must remember that it is impossible to lay down absolute laws about them; they are relative, and much depends upon the judgment and intelligence of the observer. When you form the habit of using them every day, there comes by practice the power of making a pretty correct interpretation without being able to explain it on a scientific basis. You know what the reaction means but you cannot give any good explanation of the manner in which it occurs. I have never been able to explain why bone conduction is increased in middle ear deafness. And so I say these tests are not based upon absolute knowledge of the why and wherefore and are not of scientific accuracy, but are relative. After using them for months and years we become able to make fair inferences and to differentiate the different types of ear diseases causing deafness.

G. W. MACKENZIE: I was so unfortunate as not to hear Dr. Lewy's paper but Dr. Ballenger mentioned something about the effects of certain troubles of the ear upon bone conduction. I wrote a paper upon the Rinné test several years ago which appeared in our official journal and in which I attempted to show the reasons for a negative Rinné test in diseases of the conducting apparatus, hence I do not take so pessimistic a view of the impossibility of finding out the whys and wherefores of these things as Dr. Ballenger does. My explanation of the reason was only partly original, being a modification of the explanation offered in the prize essay by Alexander, of Vienna.

GEORGE McBEAN: I think that we should feel complimented by these papers that take it for granted all of us can afford to buy these \$375.00 set of instruments.

THE PRESIDENT: Such an expensive set may be necessary for strictly scientific work, but I think that it is possible to cut out a large proportion of the expense by paying attention to individual forks and learning how to use them. Ingenuity and training of the powers that we have will make up to a certain extent for the lack of such expensive instruments. I would like to have the opinion of Drs. Lewy and Ballenger upon that subject. Of course I admit that it is nice to have a fine set of instruments and to be up to date in our examinations, but a great deal can be done by skill in lieu of expensive instruments.

DR. BALLENGER: The more one respects himself and the more he is convinced that his work is as good as anybody else's, the more he can get for his services. The only way to make oneself respected is to do as good work as the man next door, and to do better work if you can. If these instruments enable you to make tests that the man next door cannot make so well, then you are just so much better than he is. In other words you are conscious that you get fees that you would not have the audacity or right to ask if you tried to make tests without

them. If we are specialists then we are experts · if we are experts it is up to us to do the best that is known, and the best that is known in this connection is by means of this combination of forks and whistles and monochords. We must maintain our self respect by having and using the best money will buy. If we do this the instruments will soon pay for themselves many times over.

ALFRED LEWY: Those of us who cannot afford the more expensive set of instruments can get along very well with the Reiner set. Ordinarily I use this Reiner set for every day work in my office. The Bezold set should be in every large hospital for scientific work. For private practice you need forks that are without overtones and that vibrate sufficiently long, say a low C fork (64 d. v.) with lugs on it, and one (156 d. v.) with lugs that vibrate 60 seconds with a pure tone and a c4 (2048 d. v.). With these three forks you can arrive at an accurate conclusion. Along with these tests should go a careful physical examination and a history of the case, both of which are of great importance. I do not think that the c2 fork is much better for the Weber test than for the Rinné. The Weber test is by itself often unreliable; therefore if it is inconsistent with other tests it must be disregarded. In using the Weber test, it is highly suspicious of labyrinthine disease if the patient at first refers the sound to the diseased ear and later refers it to the well ear. As Dr. Ballenger says these tests are chiefly relative in character but we do know absolutely from experience that in conduction deafness the time of bone conduction is lengthened, while in internal ear deafness bone conduction is shortened. This has been frequently proven by post mortems in patients who had been tested before death.

The principal point that this paper is designed to bring out is the fact that the use of forks is essential to the proper diagnosis of deafness. I am sure that many specialisis do not use the tuning forks enough in their work. Nerve deafness is more common than is supposed. I counted up my cases in which I made complete tests and out of 338, 110 were nerve deafness pure and simple, 91 were mixed cases starting originally perhaps as middle ear cases and 99 were chronic otitis media nonsuppurativa. Six cases I could not diagnose definitely. Suppurative cases were not included in this list.

THE PRESIDENT: I thank the writer on behalf of the society for this paper: we all need a boost like this once in a while to make us do better work.

A CASE OF PITUITARY DISEASE.*

WILLIAM H. PHILLIPS, M. D.,

Cleveland, Ohio.

IN reporting this case I know I am violating two principles of ethics which should be observed in all papers presented before a medical body. First, I am reporting as a disease of the pituitary body a condition which was not certified as such either by operation or by post-mortem; and, second, the case so far as treatment was concerned was a failure and as such should be buried in my own records. So far as the diagnosis is concerned, however, I think there can be no doubt of the involvement of the hypophysis in the disease.

Whether the affection was primarily a growth or strumous enlargement of the pituitary itself, or a neighborhood growth interfering with its function by pressure, in the absence of a post-mortem I am unable to say. The case was not an especially promising one at the time of operation, and this should have warned me not to neglect the usual precaution of obtaining before operation the written consent of the patient and his family to a post-mortem should a fatal result ensue; but unfortunately this *was* neglected and as the hospital authorities were unable to notify me of the sudden death of the patient until several hours after the family had been notified, and as consent could not then be obtained, although I spent half the morning trying to get it, the chance to verify or correct the diagnosis was lost. The patient was seen twice by Dr. J. Richey Horner, of Cleveland, in consultation, who after careful analysis of the symptoms concurred in the diagnosis and urged operation. In addition he was observed and studied in my office at a meeting of our Western Eye, Ear, Nose and Throat Society by Drs. I. O. Denman of Toledo, McCleary of Cincinnati, Bryson of Pittsburgh, Myers of Ann Arbor, Hallett of New York, and Silbernagle of Columbus.

The case in brief is as follows: Mr. B., aged 35, molder by trade, is a Slav and speaks English but poorly. Gives the following history.

*Presented at the meeting of the N. W. Ohio Hom. Med. Soc., Toledo, Dec. 9, '13.

Until a year ago was apparently perfectly well. At that time vision in right eye began to fail. He consulted the company's oculist, was fitted with glasses and advised that the right eye could not be helped. Evidently a primary atrophy was diagnosed. Some little time later he began to notice that objects in the temporal field of the left eye were growing blurred. He again consulted his oculist and was treated for some time with KI, evidently, but with no result. On March 1, 1913, he came to my office. His chief complaint is that he cannot see and has been obliged to give up his work entirely. He has very severe headache, chiefly centering in and about the right eye, but no sensitiveness to pressure on the eye. Is not a drinker, but is a constant smoker. No history of vomiting, but an obstinate constipation which cathartics only aggravate. Has fair appetite and aside from feeling weak and being unable to see does not feel sick. Is well nourished, but has not gained in weight. His comprehension is slow and he answers questions hesitatingly though correctly. Part of this may be due to his difficulty with the language, but his whole appearance is that of a man half asleep or partly intoxicated. Patellar reflexes are present although sluggish and there is no marked Romberg. The right pupil when tested alone does not respond to light, but it reacts synchronously with the pupil of the other eye. The right external rectus does not act. Vision is bare perception of light. Ophthalmoscopically there is total disc atrophy (primary) and considerable pigmentation of the fundus. Left pupil responds to both light and accommodation and is of moderate size. Muscle action is perfect and vision with — .50 = 20/60. Field tests show almost entire temporal and superior fields for white absent, while the nasal and inferior fields are fairly normal. Color sense in nasal and inferior field is good. The disc shows pallor on nasal half, the vessels being in the temporal segment. No signs of choking. Urinary analysis showed polyuria, no sugar, no albumin. Blood pressure between ninety and one hundred. Quizzing revealed the fact that when vision was lost in the left eye the temporal field was abolished first, then gradually the nasal. His hands are large and square and his face, especially the lower jaw, is large and the lips very thick. There is some thyroid enlargement on the right side. His general appearance of acromegaly and the hemianopsia creating a suspicion of pituitary disease. X-ray plates were made of the sella which showed considerable increase over the

normal. The patient was put upon KI again and referred to Dr. Horner for more careful localizing study.

Dr. Horner reported a beginning facial paresis on the right side, lessened reflexes, some, though not marked, ataxia, the hemianopsia, the signs of acromegalia and paresis of the external rectus of the right eye and requested the privilege of again seeing the patient after two or three weeks' time. KI in ascending doses was continued for a period of three weeks during which the patient failed perceptibly. The weakness became more pronounced, the facial paresis somewhat more apparent, and the vision slightly reduced.

He was now given pituitrin, twelve grains daily, just why I do not know, but on March 29th, he was feeling better and vision in left eye reached 20/40 with apparently some enlargement of the field of vision. He now disappeared from view for six weeks during a part of which time I learned later he had been in a hospital for some intestinal trouble the exact nature of which I do not know. When I saw him again his physical condition was very poor; he could scarcely get about and vision in left eye was 20/100 or less and field much reduced. He was insistent that operation be tried if it offered anything. He was again referred to Dr. Horner for examination and opinion as to advisability of operation.

It was agreed there was some lesion in the neighborhood of the chiasm, probably involving the pituitary, and after some consideration it was decided to try a sellar decompression after Cushing's method of sublabial transsphenoidal approach.

For the operation ether was administered by Dr. T. H. George, of Cleveland, by the intratracheal insufflation method and proved to be a very satisfactory anesthesia. The x-ray plates had showed only moderate sized sphenoidal cavities and fairly large sella. These were apparently identified during the course of the operation, and the capsule of the gland opened. Considerable oozing of blood followed and while attempting to dry this, respiratory failure occurred necessitating cessation of work. A gauze drain was applied, the wound closed, and oxygen given. He seemed to improve for a while but did not regain consciousness, and some hours later suddenly died.

I do not intend to take much of your time in further discussing the case, but just a word or two regarding diagnosis. The only real symptoms pointing to involvement of the hypophysis were: the moder-

ate acromegaly present, the polyuria, and possibly the diminished or very low blood pressure; these do not necessarily indicate primary involvement of the gland, but may be due to pressure upon the gland from a neighboring tumor. The hemianopsia is, of course, only explainable by pressure upon the chiasm, and is a common symptom of pituitary enlargement but may be caused by any growth in the neighborhood of the chiasm. The involvement of the sixth with slight divergent strabismus is not difficult to explain, although involvement of the third nerve with convergent strabismus is much more common. The facial paresis which was not marked must be due to peduncular pressure either from the growth or from an internal hydrocephalus.

The man made a claim just before operation upon an insurance company for total loss of vision in one eye and both oculists who examined him for the company reported, I understand, optic atrophy with tabes. I cannot see the justification in this for the patellar reflexes were still present; there was no marked Romberg; no Argyl-Robertson pupil; no definite ataxia; no urine retention symptoms. Granted that optic atrophy not infrequently occurs in the preataxic stage of locomotor paralysis and that isolated ocular palsies are in the vast majority of cases tabetic or at least syphilitic, yet bitemporal hemianopsias are no part of a tabetic atrophy. A tabetic atrophy is a peripheral atrophy, beginning first in the retina and ascending along the nerve; as such it is attended by, first, total loss of color field and gradually a concentric contraction for white, or else irregular sector-like defects in the field. Again, the acromegalic signs were fairly well pronounced as they were detected by both Dr. Horner and myself independently of each other. This man was passing 75 to 80 ounces of urine daily instead of showing retention symptoms, and complained bitterly of headache. His mentality, too, was markedly affected, the result undoubtedly of an increased intracranial pressure probably in the ventricles. None of these are signs of a locomotor ataxia yet all belong to hypophysis disease. I regret that a Wasserman was not made, although there was absolutely no history of venereal disease of any kind.

1018-1020 Rose Bldg.

Postnasal catarrh—nasopharyngitis—is due, more than has been realized, to infection of the sphenoid sinus together, usually, with implication of the postethmoid cells.

HOMŒOPATHIC MATERIA MEDICA AND THERAPEUTICS.

Some Eye Remedies.

JOHN L. MOFFAT, M. D.

CLEMATIS ERECTA.

Objective.—Myosis. Eyes red and glittering, hot and dry. Inflammation of the whites.

Subjective.—Photophobia, great sensitiveness to light, cold air and bathing. Biting, burning in the eyes as if fire streamed out of them. Dryness and heat, compelling to close the lids. Smarting, rawness. Pain in middle of left eyeball. Pressure in orbits on moving the eyes.

Clinical.—Has been useful in iritis, kerato-iritis, scrofulous and mercurial affections.

COCCULUS INDICUS.

Objective.—Myosis. Lids inflamed. Sclera red. Cornea hazy.

Subjective.—Bruised or pressive pains in eyes; hard to open lids, < night. Pain in eyes as if torn out of head.

Vision.—Right hemianopsia: can see only left half of the line when reading.

Characteristics.—A prostrating nausea. The cerebrospinal system is debilitated.

Clinical.—Asthenopic headache, occiput and nape. Car-sickness; sea-sickness.

COLCHICUM AUTUMNALE.

Objective.—Inflamed eyes. Lacrimation, < open air. Lids in constant motion.

Subjective.—Violent tearing pains in the eyes.

Characteristics.—The smell of food is very repugnant, even to nausea.

Clinical.—Rheumatic gouty cases, particularly with debility; with the latter beware of large doses.

COLOCYNTH.

Subjective.—Pains sharp, screwing, cutting, boring, > by pressure.

Clinical.—Neuralgia. Useful also in controlling pains of iritis and glaucoma; these may be severe burning, sticking and cutting, extending from the eye into the head and around the eye, or else an aching pain going back into the head, usually < on rest at night and on stooping, > *from pressure* and walking in a warm room. Sometimes there is, on stooping, a sensation as if the eye would fall out.

COMOCLADIA DENTATA.

Subjective.—(*Right*) eye very painful, feeling larger and more pro-

truding than the left. < near a warm stove. Eyes feel heavy; as if something were pressing upon top of the balls, moving them downward and outward.

KALI BICHROMICUM IN "QUIET IRITIS."*

RALPH I. LLOYD, M. D., O. ET A. CHIR.,

Brooklyn, N. Y.

J. J., aged 44, complains of sudden loss of vision of the one useful eye. The left has been blind for years. Twelve years ago, and three years ago, has had similar attacks. Has never had pain except in the original attack.

The left eye is very soft, there is moderate circumciliary injection, pupil is occluded and secluded, and iris bulging.

The right is a trifle softer than normal, moderate circumciliary injection, pupil margin apparently adherent everywhere. Atropin does not show a single spot where the chambers can communicate but there must be communication somehow, perhaps numerous microscopic channels between the adhesions.

There are a number of small specks on the posterior surface of the cornea. V. o. d. 10/200 without glass, 15/200 with — 3.75 s. O. s. Can differentiate light and darkness.

No evidence nor history of gonorrheal or syphilitic infection. Has had considerable muscular rheumatism and joint stiffness but no acute inflammatory symptoms. Urine, sp. gr. 1014; albumin present.

Atropin 1 per cent., one drop to be instilled in right eye three times a day, was ordered; to demonstrate the adhesions and prevent more if possible. It had no perceptible effect upon the pupil. Because of the absence of pain and having faith in the efficiency of kali bichromicum in such cases it was given in the 2x tablet triturations every two hours.

A week later, vision with glass was 15/70. Two weeks later, vision with glass was 15/40. Six weeks later, 15/30—one letter. Twelve weeks later, 15/20—3 letters. In spite of prompt improvement, an iridectomy was recommended for the right eye and removal of the left. He declined all operative interference and when last seen still held up to last report.

*Read before the Kings Co. (N. Y.) Homœopathic Medical Society

Should this patient return for treatment today the first thing recommended would be a Wasserman; if negative, a test for gonorrheal infection. While such a report as to possible causative influences as is given above was permissible a few years ago, nowadays none of us would be satisfied to make a diagnosis of "Quiet Iritis" without investigating the cause by laboratory examinations. So this little report, beside showing the efficiency of kali bichromicum in this type of case, also shows that our methods of investigation have improved even in the last few years. Also, we have not done our full duty unless the cause is earnestly sought for.

450 Ninth Street.

AUDITORY VERTIGO CURED WITH CHININ. SULPH. 3X.

WM. H. ATEN, M. D.,

Brooklyn, N. Y.

Oct. 27, 1909, Mrs. S., aged 54, of a neurotic temperament but who usually enjoyed good health, had noticed for several days a tinnitus of the right ear.

Suddenly on November 4 there was a sensation as if the ear closed, followed immediately by violent vertigo rendering the patient helpless. She was put to bed at once and kept there. Attacks of vertigo continued several times daily. During the intervals there was continual roaring, singing and buzzing in the ear with deafness. The vertigo was always accompanied by vomiting.

Various remedies were tried, without effect, till finally chininum sulphuricum 3x was prescribed—two one grain tablets were given every two hours.

The attacks became less frequent and after one week disappeared entirely; there has been no recurrence—remedy was continued for several months.

Chininum sulphuricum was selected chiefly on account of the vertigo—with *violent ringing, buzzing and roaring in the ear and deafness, sensitiveness of the dorsal vertebræ*, pain extending into neck and head.—*No. Am. J. of Hom.*

DISCUSSION.—A. G. Warner: I had the pleasure of seeing this case in consultation. There was slight acute middle ear catarrh. The symptoms of disturbance in the labyrinth were profound and distressing.

Chininum sulph. cured because it was homœopathic to the case.

SOCIETIES.

TRANSACTIONS OF THE EYE, EAR, NOSE AND THROAT SOCIETY OF PHILADELPHIA, PA., JANUARY 12TH, 1914.

I. G. Shallcross reported a case of epithelioma of the larynx. The patient, a male, from Panama, landed in New York, where a portion of the growth was removed. When Dr. Shallcross first saw the man he had a large ulceration and quite an adenopathy. He used radium and is satisfied that the glandular enlargement has diminished to a considerable degree, but the growth in the larynx has increased in size. On account of obstructive symptoms a portion of the growth was removed by the direct method. He now proposes to use radium directly in the larynx. Failing to get results Dr. Shallcross proposes to do a laryngo-fissure with thorough curettage and use of radium.

G. W. Mackenzie, commenting upon the case, thought it was an unfavorable case throughout; at the same time he would be in favor of a thorough radical operation.

Dr. Spencer was of the opinion that the case promised an unsatisfactory outlook even if an extirpation of the larynx was performed.

Geo. Alexander reported a case of otitis media which he was treating. The case presented, as interesting features, a most marked bulging of the upper postero-superior quadrant of the membrana tympani with visible pulsation. Dr. Alexander is of the opinion that it is pretty hard to make a distinction between secretory catarrh of the middle ear and otitis media.

Frank Nagle reported a case of ectropion, the result of burn, which was operated at the Mt. Sinai Hospital. The operation employed was described by Dr. Nagle: This is Dr. Le Fever's method of operating these cases and it certainly promises excellent results. A v shaped incision is made, one limb from the outer and the other from the internal canthus, extending downward over the cheek for a distance of three inches. The flap is undermined to within one-fourth inch of the tarsal cartilage. The lower end of the v is sutured for a sufficient distance to allow a liberal fluffing of the flap above. Then the extremity of the v is sutured in the newly formed apex of the v.

JOSEPH V. F. CLAY, *Secretary*.

TRANSACTIONS OF THE EYE, EAR, NOSE AND THROAT SOCIETY OF PHILADELPHIA, PA., FEBRUARY 9TH, 1914.

President I. G. Shallcross in the chair. W. W. Speakman presented the case of congenital cataract presented at the December meeting of this society. Dr. Speakman operated the left eye, doing first a very partial iridectomy. The patient now reads 15/20 with a plus 14.5 sph. and reads fine print with plus 19.5.

Percy Tindall presented two cases occurring in colored subjects, one a male the other a female. Dr. Tindall's diagnosis was retinitis albescens. The main symptom presented by both patients was night blindness [nyctalopia]. Ophthalmoscopically the retina presented innumerable small white dots spread over the retina, the macular region being free. No change in the optic papilla or retinal vessels.

J. V. F. CLAY, *Secretary*.

AMERICAN COLLEGE OF SURGEONS.

At the meeting in Washington when the American College of Surgeons was founded, the question was asked whether the College would positively exclude surgeons who were suspected of fee-splitting or paying commissions in any form whatsoever. The President declared that no one should be admitted who was suspected of being guilty of this pernicious practice. This declaration was received with universal and most enthusiastic applause.

It does not seem possible that many men who would otherwise be eligible can belong to the class of fee-splitters, but the fact that the matter was so much emphasized has induced the Committee on Credentials to prepare the following positive declaration, which will be filed in connection with the credentials of each Fellow.

If the College succeeds in eliminating this evil, the public will be enormously benefited.

Very respectfully,

COMMITTEE ON CREDENTIALS.

This Declaration is to be signed by the candidate:

I hereby promise upon my honor as a gentleman that I will not, so long as I am a Fellow of the American College of Surgeons, practice division of fees in any form; neither by collecting fees for others re-

ferring patients to me ; nor by permitting them to collect fees for me ; nor will I make joint fees with physicians or surgeons referring patients to me for operation or consultation ; neither will I in any way, directly or indirectly, compensate any one referring patients to me ; nor will I utilize any man as an assistant as a subterfuge for this purpose.

Also the following PLEDGE is required :

I pledge myself to pursue the practice of surgery with self-restraint and to place the welfare of my patients above all else ; to advance constantly in knowledge by the study of surgical literature, the instruction of eminent teachers, interchange of opinion among associates, and attendance at important societies and clinics ; to regard scrupulously the interests of my professional brothers and seek counsel when in doubt of my own judgment ; to render willingly help to my colleagues and to give freely my services to the needy.

Moreover, I pledge myself so far as I am able to avoid the sins of selfishness ; to shun unwarranted publicity, dishonest money-seeking, and commercialism as disgraceful to our profession ; to refuse utterly all secret money trades with consultants and practitioners ; to teach the patient his financial duty to the physicians and to urge the practitioner to obtain his reward from the patient openly ; to make my fees commensurate with the service rendered and with the patient's rights, and to avoid discrediting my associates by taking unwarranted compensation.

CURRENT LITERATURE.

DEPARTMENT EDITORS.

WM. McLEAN, M. D.,
New York.

FRANK O. NAGLE, M. D.,
Philadelphia.

ANNALES d'OCULISTIQUE, Janvier, 1914.

1. Sir Henry Swanzy (Nécrologie).
- *2. La vision des nystagmiques. Dr. Ch. Lafon.
3. Infection oculaire par le bacille pyocyanique. Double panophtalmie et conjunctivite pseudomembraneuse. A. Vazquez Barrière.
4. Deux cas de trichophyties palpébrales. Landrieu.
- *2. The poor vision of congenital and professional nystagmus is due to the ocular oscillations and secondarily to myopia, strabismus, etc.; in the nystagmus of amblyopia the lesions of membranes or media pre-exist and the oscillations increase the visual trouble.

Nystagmus in general is accompanied by an alteration of binocular vision, which seems due, in the congenital, amblyopic, vestibular and symptomatic of nervous disease groups, to spasm of convergence (homonymous diplopia) and in professional nystagmus to a paralysis of convergence (crossed diplopia).

ROYAL LONDON OPHTHALMIC HOSPITAL REPORTS, January, Vol. XIX, Part 2.

- *II. A note on the progress of some cases of retinitis pigmentosine pigmenta and of retinitis punctata albescens. The late E. Nettleship, with a half tone photograph of the author.
12. On the inheritance of retinitis pigmentosa, with notes of cases. C. H. Usher.
13. Primary new growths of the lacrimal gland (illustrated). R. A. Greeves.
- *14. The visual discrimination of two points. J. Herbert Parsons.
15. The influence of illumination on visual acuity. J. Herbert Parsons.
16. I. The surgical treatment of corneal ulcer and its complications, with special reference to operation for anterior synechia.

II. Serous detachment of the choroid and ciliary body as an accompaniment of perforating lesions of the eyeball. A. C. Hudson.

*II. No pigmentation being visible by ophthalmoscopic examination, this "diagnosis is to be made only by the condition of the disc and retinal vessels and the sometimes equivocal changes due to alterations of the pigment epithelium." These cases are not common [of course, night-blindness (nyctalopia) and the visual fields are taken into account.—Reviewer]. Two cases of the retinitis pigmentosa were observed for, respectively, 25 and 15 years; the former developed the typical fundus, but the latter, after about 20 years of nyctalopia showed that only a minimal amount of pigment had reached the inner layers of the retina.

Case 4 proves that the most typical picture of retinitis punctata albescens may remain apparently unchanged for at least 18 years and then give place to the well known changes of choroidal sclerosis and commencing typical retinitis pigmentosa.

*14. If two luminous points stimulate two contiguous cones equally only a single perception can result. Separation of the two impressions can only occur if two stimulated cones are separated by an unexcited or a differently excited cone. It is uncertain whether the impulse starts in the inner or outer limbus of the cones or even in the pigment epithelium and is thence transferred to the cones.

If the posterior nodal point is taken as 15 mm. from the retina, then 0.5μ on the retina = a visual angle of $7''$, $1 \mu = 14''$, $3 \mu = 42''$, $4 \mu = 56''$. If the inner limbs of the cones are the site of excitation the distance between the centers of the diffusion circles must be, at least, 3μ . According to Aubert (1864) white squares on a black ground, measured from edge to edge, could be discriminated at a visual angle of $55''$. For points $1'$ apart to be invariably discriminated as separate points there must be minute movements about the fixation point. Such movements must be predicted if the outer limbs of the cones are the site of stimulation and are taken as 3μ apart, for in no fixed position can there be an unexcited or differently excited cone intervening (0.75μ , or $10.5'' =$ the diameter of the outer limb).

Under the action of light the processes of the pigment cells extend forward between the rods and cones.

THE AMERICAN JOURNAL OF OPHTHALMOLOGY. Jan., 1914.

I. A case of unilateral interstitial keratitis due to parotitis. W. A. Shoemaker.

*2. An eye with double perforation by a foreign body not located by Roentgen rays. A. Alt.

*2. The eye, which was enucleated on account of pain and irritability of the other one, had been injured more than a year previously. On macroscopical examination of the sectioned eye, a scar was revealed at the corneoscleral region on the temporal side, and from it a band 1mm. thick of C. T. passed through the vitreous and was attached to the sclera a short distance nasally from the disc.

The foreign body had passed through the anterior part of the ciliary body. The iris was not injured, but the periphery of the posterior lens surface showed evidences of injury.

Microscopically the C. T. shows plainly the track of the penetrating body. The scleral scar is firm and shows no infiltration, but a cystic enlargement is present on either side. The scar in the posterior quadrant is firm with very little cellular infiltration.

The retina remote from the scleral scar is in good condition, but the papilla is flat and the nerve is atrophic. The recent inflammatory condition concerns the uveal tract only.

JOURNAL OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY, January.

*1. Affections of the eyes resulting from sinus involvements. R. W. Miller.

*2. Diagnosis and indications for treatment of suppurative diseases of the nasal accessory sinuses. R. Levy.

*1. Dr. Miller takes up the study of the various affections of the eyes resulting from sinus involvements, such as optic neuritis, the so-called optic neuralgias and disturbances of vision resulting from congestion of the orbital contents. Many such conditions he shows are due to unhealthy and ill functioning accessory sinuses of the nose. He divides the causes of such ocular and orbital disturbances into: (a) mechanical or irritative, (b) toxic, and (c), septic.

Before any marked improvement in the ocular conditions of such a case may be expected, the nasal fault must be corrected.

*2. The paper by Dr. Levy follows along the same lines as the previous paper by Dr. Miller and he takes up the symptoms of the various accessory nasal sinuses and describes the treatment briefly for each condition.

THE OPHTHALMOSCOPE. January.

*1. Sclerotomy vs. sclerectomy. H. Herbert.

2. Dichromic vision. F. W. Edridge-Green.

*3. A case of panophthalmitis caused by bacillus subtilis following cataract extraction. T. H. Butler.

*4. On the technique of evisceration. H. Gifford.

*1. Eyes examined histologically at various periods after sclerectomy show different degrees of filtration and fistulasation. Some have a very definite area of subconjunctival filtrating material while others show fibrous tissue firm enough to block filtration.

In some cases of sclerectomy the conjunctiva becomes the thinnest kind of tissue and the interior of the eye is liable to any infection entering the conjunctival folds. Sclerectomy is more liable to render the eye subject to possible late infections than the author's sclerotomy; however he considers a sclerectomy more serviceable in eyes with much chronic ciliary congestion and in many secondary glaucomas, as here sclerotomies tend to heal with absolutely firm scars.

The author believes the principle of true fistulasation of eyes is wrong, except in the types in which true filtration is found to be unattainable or ineffective.

*3. Dr. Butler gives in detail a very careful and thorough method of rendering the field of operation sterile. (The method he uses.) The history of the case is given, also the operative technique and post-operative care. The case in question developed an infection, and a bacteriological examination indicated a grave positive bacillus subtilis, a grave negative bacillus and a copious growth of staphylococcus albus.

*4. The author's experience with Mule's operation without excision of the cornea is given, and his reasons which led to the adoption of the following technique of evisceration.

The cornea is cut across by an incision which extends one-fourth inch into the sclera at each side.

The contents of the globe are scraped out, utmost care being used at the ciliary region and entrance of the nerve. The interior is then rubbed vigorously with globular gauze swabs to free it of all traces of its structures within the sclera. The cavity is then irrigated with sterile boric solution. The anterior half of the sclero-corneal wall is then pushed back against the posterior half and pressure is applied for forty-eight hours with a good sized globular gauze swab, which has

been dipped in sterile oxide of zinc ointment. Lastly, a compression bandage is applied. A superior cosmetic result is claimed for the operation.

OPHTHALMOLOGY. Jan

1. Interstitial keratitis in my ophthalmic practice. Juan Santos Fernandez.
2. The newer operations for acute and chronic glaucoma. L. W. Fox.
3. The T shaped sclerotomy. Dr. Van Lint, translated by Fox.
4. Industrial electricity as a cause of cataract. E. Lander.
5. The asthenopia of muscular imbalance. H. F. Hansell.
6. New plastic operation for entropion. F. B. Tiffany.
7. Adenoids as a factor in amblyopia. C. F. Adams.
8. Report of twenty cases of trephining for glaucoma. N. Rummen.
9. Fourth series of cases of injuries from foreign bodies examined by the Roentgen ray, with results of operation. W. M. Sweet.
10. Three operations upon the eye and face under regional anesthesia. Drs. R. and M. Davis. Translated by J. F. Chattin.

THE LARYNGOSCOPE. January.

1. Case of purpura hæmorrhagica. M. A. Goldstein.
2. Some serious eye conditions the result of intranasal and nasal accessory sinus disease. J. A. Stoky.
3. Brain infection from sinus disease. W. Freudenthal.
4. Hypertrophied tonsils interfering with the action of the palate and causing defective speech. G. Hudson-Makuen.
5. Acute phlegmonous epiglottiditis. M. D. Lederman.
6. On the use of electromagnets in the extraction of metabolic bodies from the trachea and bronchi with report of case. S. Iglauer.
7. The violet ray and ozone of use in nose, throat and ear conditions. K. W. Baldwin.
8. Skull of aborigines, specimen of temporal bone. T. J. Harris.

REVUE GENERALE d' OPTHALMOLOGIE, Janvier 31.

L'oeil osseux. Bussy.

Ossification of the eye is, rarely, of teratological origin, they are osteatomata of the conjunctiva. Others, more rare, seated also under the conjunctiva, are of inflammatory origin and are recognized as a

cause of trachoma. These are ossifying conjunctivitis, a bony transformation of newly formed connective tissue, and are accompanied by hyaline or amyloid degeneration. There are inflammatory ossifications of the choroid complicated secondarily by sarcoma, but it does not seem warrantable to describe this as an osseous sarcoma of the choroid. Inflammatory bony new formation is very frequently found in the interior of an atrophic stump.

The author feels that sufficient place has been accorded to this condition in ophthalmological literature, and is trying to fill the gap by the help of Professor Rollet's service, this paper giving but a brief glimpse.

THE OPHTHALMIC RECORD. January.

- *1. A case of late infection after Elliot's trephining. H. Gifford.
- 2. A few remarks on trephining. R. Denig.
- *3. Sclero-corneal trephining in glaucoma. L. C. Peter.
- 4. A case of cataracta traumatica electrica. C. Ide.
- *5. Complete paralysis of oculomotor nerve following injury. E. Cobb.

*1. In doing an Elliot trephining, the ordinary precautions seem to be sufficient to guard against infection at the time of the operation; not so, however, against a secondary infection. In 1912, Wagenmann, in a discussion on trephining, cited a case in which, some time after a successful trephining, a late infection of the anterior chamber occurred. Last June twelve additional cases of late infection were reported by various authors.

Two of the cases reported were by Stocks, at which the flap was buttonholed during the operation. One developed late panophthalmitis and the other late purulent iritis. In a case reported by Story, the infection set in several weeks after the operation and led to phthisis bulbi.

Other cases are presented by Bromer, Morax, Wickerkiewicz, Isakowitz and Schur. In Schur's patient an enucleation was done, and a microscopic examination showed a line of infection beginning in a small epithelial defect a little below the trephine hole.

Axenfeld and Pagenstecher report similar experiences of late infection after the iridosclerectomy of Lagrange.

The author reports one case of late infection in a series of thirty cases.

In a report of Miller from the clinic at Vienna out of 389 sclerectomies according to Lawrence 1.3 per cent. of the eyes were lost by late infection, while with 178 Elliot operations late infection apparently was not observed.

*3. Dr. Peter advises the operation of sclero-corneal trephining (Elliot's operation) with some modifications by the author in all cases of glaucoma.

*5. Patient was thrown from a buggy in a runaway accident and was unconscious for ten hours. Small discoloration over external and superior margin of orbit. There was complete ptosis of right lid, pupil widely dilated and external diplopia. Trochlear and abducens nerves responded all right. Treatment for the condition was given, but finally there was no improvement in the lesions except a slight improvement in the ptosis.

THE OPHTHALMIC RECORD. February.

1. The prismdioptry establishes a dimensional unit at the optic chiasm. C. F. Prentice.

2. A theoretical consideration of some phases of sympathetic ophthalmia. H. Gifford.

3. Report of a case of glioma of the retina in a Jamaican two years old. D. F. Reeder and S. T. Darling.

4. Salvarsan and neosalvarsan in the treatment of syphilis, with especial reference to diseases of the eye. A. Uhle and W. H. MacKinney.

5. The hard plug method of controlling hæmorrhage deep in the orbit, as illustrated in a case of aneurismal varix. H. Gifford.

6. Table instead of a chart for the tonometer. E. C. Ellett.

7. Two useful remedies in treatment of diseases of the conjunctiva. R. L. Thomson.

NEW YORK STATE JOURNAL OF MEDICINE. Feb.

*8. Desirability of greater uniformity in tests for heterophoria. Lucien Howe.

*9. The operative treatment of high myopia. Walter E. Lambert.

10. The conservative treatment of chronic aural suppuration. Robert Livingston Laughran.

11. The operative findings and results in mastoiditis, acute and chronic. John Marvin Ingersoll.

*12. Tuberculous affections of the ear. Thomas H. Farrell.

*8. There is confusion as to the relative value of tests for heterophoria, as ordinarily made they do not always give constant results. The tests are more constant if made with the accommodation entirely at rest. There would be less confusion if with each record it were stated or at least understood which method was used and whether the accommodation were at rest (cycloplegia). The value of data furnished by the static condition of the muscles in a given case is increased if we know also the ability to sustain prolonged strain, or the tendency to rapid fatigue. The muscles write their own story of fatigue on the ergograph.

*9. Five successful cases are added to those the author presented to the American Medical Association recently; they have served to strengthen his conviction that the dangers in this operation have been very much exaggerated and that we are justified in operating many cases in which the conditions would be considered contra-indicative.

*12. To prevent confusion of the tubercle bacilli with the smegma bacilli, due to admixture of cerumen and cholesteatomata, differentiate by decolorizing with acid alcohol: the tubercular bacillus is the only one not decolorized. Prognosis is more favorable in primary than in secondary tuberculosis.

OPHTHALMIC REVIEW. Feb.

1. Clinical contribution to the study of glaucoma. W. F. Orr.
2. Corneo-sclero trephining. Lieut. Col. R. H. Elliot.
3. Extirpation of the lacrimal sac. F. P. Maynard.

INTERSTATE MEDICAL JOURNAL, March.

(Special tuberculosis number.)

4. Tuberculosis of the ear. Harold Hays.
33. Alcohol injections in tuberculosis of the larynx. Wm. B. Chamberlin.

ABSTRACTS.

Suppurative Sphenoiditis (Attenuated Types) in Relation to "Post-Nasal Catarrh," Asthma, and Headache With Mental Daze. These cases are those with variously modified puruloid secretion discharging postnasally. After operation, in the exudative diathesis, the sphenoid wall and postethmoid cells will reassume their poor estate so that three months later one might scarcely know the cells had been opened, hence not infrequently a larger area must be excised; when the anterior group has been jointly operated, with watchfulness and persistence a gothic vaulted roof is attainable.

Are the patients then cured? "If cure shall be defined as a total suppression of disordered secretion and other symptoms it can be said to follow only when the focus of infection is exceptionally limited and accessible. But to approximate ordinary conditions, a less rigid standard of cure will suffice; few individuals are altogether free from disordered secretion. If then nine-tenths or more of the distress and disability incidental to the postnasal discharge be eliminated, material mitigation of the asthmatic feature afforded and the headache with possible mental deterioration wholly remedied, it amounts to a practical cure. In this sense a large majority of spheno-postethmoid sinus affections of the attenuated types specified are curable by the method described."—W. E. Casselberry, *J. of Oph. and Oto-Lar.*, July.

Postnasal dropping may be due to secreting clefts of adenoid overgrowth, posterior hypertrophy of the turbinated body, empyema of the antrum or, particularly, to the *sphenoid* and maybe to the posterior ethmoid cells.

Contra-indications to vaccine therapy are: rapid fulminating infections; confined infections, whether the patient is reacting or not, which should be drained; old chronic infections with a mechanical feature interfering with recovery; cases that have been absorbing excessive toxins; cases in which there is an underlying nutrition direct, which in itself prevents formation of immune bodies. If there is not at least a moderate reaction after injection the vaccine is not right, and if there is not early indication of recovery some other treatment should be used.

Clinical Significance of Congenital Cataract. If there is any clear space in the pupil area so as to permit the retina to functionate, operation may be deferred and, later, an iridectomy done on the side indicated by the strabismus. A rotary voluntary nystagmus also indicates an iridectomy.

Needling, if there be glittering opacities, would be contra-indicated because they are insoluble, permanent and irritating when liberated from their natural position; also because microphthalmus almost always being present infantile glaucoma may occur, owing to imperfect formation of the spaces of Fontana. Zonular cataract lends itself to needling with the best prospects. In other forms of congenital cataract is not good treatment.—Vail (Chicago Ophthalmological Society), *Jour. of Oph. and Oto-Lar.*, July.

Influenzal Otitis. While it may be virtually impossible to get a pure monobacterial culture from an acute suppurative otitis media at the time of incision of the membrana tympani, nevertheless, from a clinical viewpoint the results of such a microscopical examination can be accepted as definitely defining the character of bacterial invasion. If under such circumstances one finds the influenza bacillus, S. MacCuen Smith is inclined to accept the infection as being of this particular type, though the patient may not present marked general symptoms of influenza.

The unscientific tendency now to call almost any ailment influenza, in cases where no other disease manifests itself, is analogous to a former period when all doubtful diseases were supposed to be malaria. A culture taken directly from the tympanic cavity does enable us to state definitely whether the otitis involvement is influenzal or otherwise, keeping in mind, of course, that the discharge becomes mixed, or polybacterial, in character very shortly after exposure to the air. We must give due consideration to, and recognize the formidable importance of the influenza bacillus when this particular micro-organism invades the human economy.

The aural destruction in some of his influenzal cases was so rapid that one would naturally suspect that the streptococcus must have been an important factor; yet in three cases no other micro-organism than that of the influenza bacillus could be found. In each of these the bony destruction was very marked, causing exposure of the sinus and dura all in the space of about twenty-four hours; and this without any suffering from pain or other general manifestations on the part of the patient. In one of these cases a large sequestrum, involving the greater part of the tip, was removed, this patient giving the early symptoms of Bezold's mastoiditis during the preparation for the operation.

So long as influenzal invasion attacks the young or those with a thin and more or less porous cortex, the direction of the inflammatory process is usually external, as is commonly manifested by the characteristic pain and swelling over the mastoid. In those cases, however, where the mastoid is small and the cortex comparatively thick and dense, the course of erosion will naturally follow the path of least resistance and invade the sinus or interior of the skull. As it is clearly impossible to definitely determine this point in many of these rapidly developing infectious diseases, the safety of the patient lies in early operative intervention.—*N. Y. Med. J.*

BOOK REVIEWS.

THE ELEMENTS OF HOMŒOPATHIC THEORY, PRACTICE, MATERIA MEDICA, DOSAGE AND PHARMACY. *Third revised edition.* By DRs. F. A. BOERICKE and E. P. ANSHUTZ. Cloth, 223 pages, $6\frac{3}{4} \times 4\frac{1}{2} \times 1\frac{1}{2}$ ". \$1.00. Postage, 5 cents. Philadelphia. Boericke & Tafel. 1914.

The importance of this interesting little presentation of homœopathy is indicated by the necessity for a third edition. It is particularly adapted for physicians of other schools of practice who are or might be interested in homœopathy. The keynotes and therapeutic range may serve well as a memory refresher for us. Now that the reconciliation of the two schools seems so immanent this little work may help dispel the prejudice of ignorance.

We suggest the following criticisms for the fourth edition which will doubtless be called for.

It is remarkable that among the few "standard works" recommended we fail to find Norton's Ophthalmic Diseases and Therapeutics, I. D. Johnson's Therapeutic Key, and Bartlett's Diagnosis and Practice and Goodno's Practice. In the reviewer's opinion Arndt and Jousset cannot compare with Bartlett and Goodno. Bell on Diarrhœa and King on Headaches are invaluable therapeutic guides.

While tablets are mentioned they are not described; an omission which, of course, will be rectified at the next opportunity. Not unnaturally the pharmacy of this book is based upon that published by Boericke & Tafel, ignoring the official Homœopathic Pharmacopeia of the United States.

It is particularly regretable that the authors adhere to the ill advised "curantur" instead of *Similia Similibus Curentur* which Hahnemann wrote.

We are surprised to find, in the Therapeutics, only *calcareæ fluorica*, *cannabis indica* and *fluoric acid* mentioned for cataract—to the exclusion of *causticum*, *naphthalin*, *phosphorus*, etc. *Asthenopia* is not listed; and neither *ferrum phos.* nor *sulphur* is mentioned under "Ear." "*Gonorrhœal ophthalmia, kali sulphuricum 6x*" is an entirely inadequate attention to this terrible disease; and physicians relying upon this treatment solely, upon only this remedy, could be condemned for malpractice. This alone might prejudice a well read allopath against homœopathy.

ANATOMY AND PHYSIOLOGY. A TEXT-BOOK FOR NURSES. By JOHN FORSYTH LITTLE, M. D., Demonstrator of Anatomy, Jefferson Medical College, Philadelphia. Cloth, 483 pages, $8 \times 5 \times 1\frac{1}{4}$ ", with 149 engravings and 4 plates. \$1.75, net. *The Nurses' Text-Book Series.* Lea & Febiger. Philadelphia and New York. 1914.

As will be seen from the above measurements, this book is of a handy size; that it contains so much matter is a compliment to author and publishers. The illustrations are fine, the typography, paper and binding excellent. The author's clear style, concise diction, liberal paragraphing and use of heavy face type make these difficult subjects quite easy reading. The quiz-questions at the end of each chapter enable the student to emphasize the important parts. We have never seen anatomy and physiology so well presented for pupil nurses.

The Journal of Ophthalmology, Otology and Laryngology

Vol. XX

Lancaster, Pa., and New York, May, 1914

No. 5

EDITORIAL.

MAKE THE DEGREE M. D. A POSTGRADUATE ONE.

FOR years there has been a desire upon the part of some that the doctorate in medicine should more closely approximate that of Ph. D.

Now that M. D. no longer confers the right to practice and has been virtually relegated to the grade of a bachelor by the requirement for license of a year of hospital experience, it is suggested that efforts be instituted to have all the medical colleges in the country confer the degree of *Bachelor of Medicine* upon completion of the college course.

The holder of M. B. would be eligible for hospital and clinic positions, receiving M. D. after a satisfactory year of practical work, preferably upon submitting and defending a thesis. This higher degree to be conferred by a medical college without further examination but that of the State for license, unless the thesis and its defence be required for the doctorate.

Some such system we predict is sure to come, sooner or later; now is a good time to prepare for its inauguration. It will be opposed by the conservative element, by those who wish to make it easy as possible for the poor boy to enter into medical practice and, probably, by a large number of the medical schools; the latter, however, would doubtless comply if assured that all would do the same and at the same time.

One of the great difficulties would be to secure the necessary amendment in their charters by their respective state legislatures. Surely it is not too optimistic to believe that all medical schools of merit would make the necessary application. Pressure upon colleges and legislatures by the American Institute of Homœopathy, the American Medi-

cal Association and the federated Boards of Medical Examiners would ensure the change.

Every holder of M. D. today would benefit by the increased respect in the world at large for that degree. As it now stands any graduated Doctor of Medicine is entitled to wear a gown with the doctorate hood, regardless of how, when and where he was so graduated, on every occasion where such gowns are appropriate—on a par with doctors of philosophy, science, laws, literature, divinity, etc.

It must be constantly borne in mind that the proposed change is one in name only, and entirely separate from the question of elevating the standard of education.

The final clinical year is now required for license, let the full doctorate be withheld until its completion! Thus will this degree and the American profession gain in dignity.

It is for those opposed to advance convincing objections to this change. It is for those in favor to exert themselves and create the necessary public opinion—each voice counts.

If not a general movement, those colleges which can afford to do this would reap the reward of recognized superiority, their graduates affixing their alma mater to their M. D. as a legitimate advertisement.

THE DISEASES OF THE MAXILLARY SINUS.*

GEORGE W. MACKENZIE, M. D.,

Philadelphia.

THE maxillary sinus is perhaps the most frequent meeting ground of the dentist and rhinologist, since diseased conditions originating in the teeth and alveoli may involve secondarily the maxillary sinus; and, too, conditions arising in the sinus may eventually involve the teeth or alveolar process. Furthermore, we meet with obscure pathologic conditions—for instance, dentigerous cysts—involving the maxillary sinus, which cannot be assigned strictly to the one or the other specialty. In brief, the work of the one specialist often requires the assistance of the other. It is only by the co-operation of both that the best results are obtainable.

With your permission, let us review briefly the subject of "The Diseases of the Maxillary Sinus" from the viewpoint of the rhinologist, trusting that, in the discussion to follow, you will present the subject from the viewpoint of the dental surgeon.

The maxillary sinus is located in the body of the maxillary bone, and is the largest¹ of the nasal accessory cavities. According to Skillern, the normal capacity may be put at about 10:12 c. c. in woman, and¹ 16:18 c. c. in man. In shape, it is a triangular pyramid, with its base directed toward the nasal fossa and its apex located at about the articular junction of the maxillary and malar bones. The three remaining sides of the pyramid are the orbital plate of the maxilla, the canine fossa, and the posterior surface of the pterygo-maxillary fossa, or *tuberositas maxillaris*.

The median wall of the sinus is not closed entirely by the maxillary bone. The closure is aided by the maxillary process of the inferior turbinate bone, the perpendicular process of the palatine, the uncinat process of the ethmoid and the pars membranacea. It is of diagnostic and surgical importance to note that the median is the thinnest of its walls, and is perforated by at least one opening—the ostium maxillare.

*Read before the Eastern Dental Society of Phila., Jan. 8th, 1914.

A maxillary sinus without at least one ostium is inconceivable when we consider how the sinus is developed, *i. e.*, by the reabsorption of bone and invagination of the nasal mucous membrane. This ever present ostium is located high up and anteriorly on the median wall of the sinus, and opens into the hiatus semilunaris, which is found on the lateral wall of the middle meatus. Notwithstanding the above description, the form and size of the sinus vary considerably in different individuals, depending upon the age, sex and race; so, too, it may vary on the two sides in the same individual. Instead of one opening, there may occur at times (one in ten cases) multiple openings. These accessory ostia more often occur in later years, and perforate the more yielding² *pars membranacea*.

According to Cryer, "The development of the sinus begins at about the fourth month of gestation, by an invagination of the living membrane of the nose from the hiatus semilunaris into the body of the maxilla. From the time of the invagination until the eruption of the permanent teeth, the greater portion of the maxilla is occupied by the dental organs."

That part of the anatomy which appeals more particularly to the Dental surgeon is the region of the alveolar process, the canine fossa and the floor of the maxillary sinus. In those cases of extremely large maxillary sinus, where there has occurred a hyper-reabsorption of bone, extending as low down as the roots of the teeth (from the first or second bicuspid backward), and even lower, a considerable portion of the roots, covered by the thinnest layer of cortical bone, may extend several millimeters into the cavity of the sinus. It is in this class of cases that sinus disease is prone to follow an infection of the teeth—or, more properly, of the tooth pulp. In other cases, where the reabsorption is but slight in amount, the alveoli may be separated considerably from the floor of the sinus: when the tendency to secondary sinus infection is proportionately lessened.

The sinus is frequently divided into lesser recesses by trabeculae of bone and connective tissue. The separation, however, is never complete—a fact which we should bear in mind when we come to consider dentigerous and other cyst formations.

The maxillary, like the other accessory nasal sinuses, is lined with mucous membrane continuous with that lining the nasal cavity. The mucous membrane of the sinuses differs somewhat from that of the

respiratory portion of the nasal cavity, in that it is thinner and contains no corpus cavernosum. They are somewhat alike, in that they are covered with ciliated epithelium and are rich in compound tubular glands. Furthermore, the mucous membrane and periosteum are in intimate association in both instances.

The maxillary bone and sinus are subject to many and varied pathologic processes, including:

MAXILLARY SINUSITIS of nasal origin, catarrhal or purulent, acute or chronic.

MAXILLARY EMPYEMA, secondary to infections of the teeth.

OSTEOMYELITIS, occurring particularly in early life, following the acute or chronic infectious diseases.

CARIES AND NECROSIS, following poisoning from phosphorus, mercury and other metallic poisons.

FOREIGN BODIES in the sinus, vomitus, parasites, bullets, parts of broken instruments, stones spontaneously formed, and incrustrated fruit stones (cherry), a tooth (supernumerary, impacted or put there by a faulty attempt at extraction), etc.

TUMORS, primary in the sinus, or secondary from extension from the nasal or oral cavities. Sarcoma more particularly in young subjects, carcinoma in the older, fibroma (Zuckerkindl³ reports one that had become ossified), odontoma (a tumor of dental origin, beautiful illustrations of which are to be found in the works of Zuckerkindl and Cryer).

POLYPS in the sinus, the general type and the so-called cystic. Zuckerkindl found polyps in the sinus in six cases out of three hundred cadavers examined, of which only three were of the usual type of mucous polyp.

HYDROPS ANTRI, which rarely, if ever, occurs from blocking up of the ostium; for practically all the cases that have been carefully studied pathologically were found to be cystic formations, due to closure of the duct of a mucous gland.

DENTIGEROUS CYST, the non-infected and the infected type. One case of the infected type was reported by the writer.

GRANULOMATOUS INFILTRATIONS, of syphilis and tuberculosis particularly, are occasionally met with, involving the maxillary bone and sinus.

So-called INVERTED TEETH of some authors; IMPACTED, according to Cryer.

CASEOUS DEGENERATION, or "Verkäsung," is a condition in which the sinus is more or less filled with caseous material, due to secondary degeneration of previous formations, cysts, etc. Rarely, this cheesy substance may be associated with cholesteatomatous products, which would be indicated by the presence of cholesterin crystals.

INFLAMMATORY HYPEROSTOSIS, inflammatory new bone formation, causing a thickening of the walls of the sinus, occurs rarely in the course of chronic suppurative empyema; and, of itself, causes few, if any, symptoms other than those of the primary trouble.

PERIODONTITIS, inflammation of the membrane covering the root of a tooth. It may be acute or chronic. In the chronic form, according to Hajek,⁴ it may lead to considerable thickening of the membrane.

ACUTE ROOT ABSCESS, secondary to infections with caries of the tooth pulp.

PERIOSTITIS AND OSTEITIS, circumscribed or diffuse, of the alveolar process follows in the wake of abscessed pulp.

The foregoing comprise the more frequent and important conditions to be met with that may call for either dentist or rhinologist, or both. The time at my disposal will not permit me to discuss in detail all of these conditions. I shall, therefore, limit my discussion to those only that appeal to me as the most important, or those with which I have had more experience.

ACUTE OR SUPPURATIVE SINUSITIS OF ENDO-NASAL ORIGIN may occur in the catarrhal or suppurative form, according to the intensity of the primary nasal infection; which, in turn, depends upon the virulence of the invading micro-organism and the receptivity of the host. The chronic catarrhal or suppurative sinusitis follows in all cases of uncured acute attacks. The so-called recurrent sinusitis is a chronic form, manifesting but few signs, except during periods of acute exacerbations.

I shall not burden you with a detailed differentiation of the pathology and symptomatology of the various forms of sinusitis, but shall refer you directly to the most common form; that which the dental surgeon is more likely to meet, namely: acute suppurative sinusitis—acute empyema of the maxillary sinus.

From the HISTORY, we learn that the present condition was preceded by a severe *cold in the head*; that, during the stage of improve-

ment, there was a sudden flare up of symptoms, *i. e.*, *fever*, associated, perhaps, with chilliness; *pain*, radiating and sharp or, more often, dull, heavy, aching, limited to the region of the sinus and often the teeth; *tenderness*, limited to the region of the sinus; occasionally, a *pink blush* and *puffiness* of the cheek; *increased stoppage of the nose*; a subjective *sensation of offensive odor*; *unilateral nasal discharge*. The last mentioned symptom may or may not be present, depending upon the time of day and the intensity of the swelling of the mucous membrane in the region of the ostium maxillare. The *discharge* may occasionally be *streaked with blood*.

The onset of acute sinusitis is usually sudden, and may follow in the course of the acute cold in the head; but more often it follows later, after the cold has apparently subsided. The picture of acute sinusitis is often so typical that the untrained layman recognizes it and labels it an abscess in the head. He often describes his case vividly, and points back to the time that the abscess broke, when there was a gush of blood and discharge, followed by relief.

RHINOSCOPIC EXAMINATION reveals a redness and swelling of the mucous membrane in the region of the middle nasal fossa, together with a streak of pus. In a typical case of sinusitis of endo-nasal origin, there should be *no bulging in the canine fossa*, as found in some other conditions; for the reason that this wall is more resistant than the median wall of the sinus.

In making a diagnosis, transillumination and the skiagraph should, and generally do, show a greater opacity of the region of the maxillary sinus on the affected than on the unaffected side. The most accurate method of diagnosis is to insert a Lichtwitz hollow-puncture needle into the sinus through the inferior meatus, and wash the cavity. If the washings show pus, the diagnosis is assured. The treatment then should be assigned to the rhinologist.

It occasionally happens that cases of acute suppurative sinusitis of endo-nasal origin fall into the hands of dental surgeons first; particularly those in which the patient has suffered considerable neuralgia and toothache—the more so, if the patient has knowingly neglected his teeth. In some cases in which toothache has been a pronounced symptom, the extraction of a tooth, by affording increased drainage, has resulted in some relief; and in some cases, an actual cure. This really is a hit or miss style of treatment, and should not be encouraged. It

is far more satisfactory to determine by careful examination the actual cause of the trouble, and treat it accordingly.

ACUTE MAXILLARY SINUSITIS OF DENTAL ORIGIN differs in many respects from that of endo-nasal origin, and requires a different sort of treatment. From the combined statistics of many authors, it would seem that the maxillary sinus, in 20 per cent. of the cases, is due to some infection from the teeth. Sinusitis is more apt to occur secondarily to tooth-infection in those cases in which the roots are more or less exposed in the floor of the sinus, the infection traveling up through the pulp and apical foramen into the sinus. Infection of the sinus may, however, occur by a more circuitous route, *i. e.*, primary carious infection of the tooth, followed by a periostitis and osteitis, and thence spreading to the sinus. It is possible for infection to spread through the circulatory or lymphatic streams from the teeth to the sinus.

The treatment in these cases should be directed primarily to the teeth and the alveolar process about the region of the offending teeth. Such cases should be treated by the combined efforts of the dentist and rhinologist. In many of these cases, the dentist alone is able to succeed. In the more chronic cases, he will succeed better with the assistance of the rhinologist.

In the case of OSTEOMYELITIS, the lesion is rarely, if ever, limited to the alveolar process; other parts of the maxilla are usually involved, which, considered together with the history of an acute or chronic infectious disease in a young child, will aid us materially in making the correct diagnosis.

In all cases of CARIES AND NECROSIS, we should consider whether the condition is of local or of general origin. Local infection not infrequently comes from the combination of two important factors: fractures of the alveolar process during attempts at extraction, and the use of unclean instruments. Where no local cause is ascertainable, inquiry into the patient's occupation should be made, to determine whether phosphorus or mercury poisoning may not be the etiologic factor.

A FOREIGN BODY in the antrum may give rise to symptoms that prompt the patient to seek the dentist, the more so, if the foreign body presses directly upon the nerve supply to the teeth, and thereby causes them to ache. Indirectly, it may cause the teeth to ache by producing an inflammation of the surrounding mucous membrane of the

sinus. An impacted tooth, as a foreign body in the antrum, may grow in such a way as to cause pain referable to a neighboring tooth; and, too, it may be associated eventually with abscess formation. A tooth or a part of a tooth may be forced into the sinus through a fracture of the wall, in an unskilled effort to extract or carelessness in driving artificial crowns or bridges upon the teeth or roots. (Cryer, p. 74.)

TUMORS. I have already referred casually to the subject of tumors. They may originate in the sinus and spread outwardly, or they may start in the mouth and spread inwardly. (I believe that the dentist should be taught the pathology and diagnosis of tumors as fully as the physician.) If accessible, a small piece should be excised and referred to the pathologist for diagnosis or for the corroboration of your suspicions. The fact should not be overlooked that the granulomata often resemble neoplasms, and aid may be had by blood examinations.

The ordinary POLYP OF THE ANTRUM is not a condition, of itself, that would cause the patient to seek the dentist; the primary condition, however, may. On the other hand, the so-called cystic polyp, one that develops from closure of the duct of a gland within the sinus, may, according to some authors, develop to such an extent as to produce a thinning and a bulging of the sinus walls. This condition was formerly known as HYDROPS ANTRI, and a few authors still cling to the old nomenclature. Zuckerkandl, Hajek and some others believe that they would not cause a bulging of the canine fossa so readily as they would a bulging of the pars membranacea in the nose. This seems to the writer to be the proper view.

DENTIGEROUS CYST. A cyst of dental origin forms about the apex of a root. These cysts vary in size from that of a pea to that of a walnut, and larger. They are covered with thin bone, which crepitates like parchment under the palpating finger. They are lined with flat, pavement-like epithelium, and contain a cheesy debris, which, under the microscope, shows thin, rhomboid-shaped crystals, known as cholesterol crystals. The contents are normally sterile. Eventually these cysts may become infected and abscess, through the extension of infectious material from the pulp cavity up through the apical foramen.

Concerning the origin of dentigerous cysts, we have two theories: that of Magitot,⁵ and that of Mallasez.⁶ Magitot claims that every so-called periostitic cyst is produced from swelling of the tissues that form the periosteum and alveolar ligament, about the extremity of a

root; in fact, where the canal of the tooth opens into the tip of the root.

In speaking of the relationship of dentigerous cysts to the maxillary sinus, he says that the formation of the cyst sac is exceedingly slow; that the bony wall of the sinus is elevated, and the cyst cavity builds a cavity within the sinus, which may in some cases displace the cavity of the sinus so effectually that it is difficult to distinguish the one from the other. However, a close examination will show that the cavity is lined with two envelopes: the outer, composed of the mucous membrane of the sinus proper; and an inner one, of the cyst wall. He cites one instance of this kind, in which, in spite of the apparent emplacement of the sinus by the cyst, he was able to find a trace of the sinus in an area remote from the cyst. In another case, he found the cyst incompletely covered with a bony shell, which ruptured and discharged its contents into the sinus.

The theory of Mallasez attributes the development of tooth cysts to epithelial remnants of the enamel, and is supported by the exhaustive researches of G. Scheff.⁷ Mallasez points out that on the tip of the root, in diseased teeth, one finds, not rarely, small cystic swellings, in the cavity of which may be seen the end of the root, bared of its periosteum. The cyst wall consists of connective tissue lined with pavement epithelium, the epithelium extending here and there, as projections into the connective tissue. This pavement epithelium of the sac is derived from the epithelial rests of the enamel germ, incited to proliferation through the stimulating influence of inflammatory irritation.

A case of an infected dentigerous cyst reported by the writer⁸ was typical of its kind. Two years prior to my seeing him, the patient had noticed a firm swelling, the size of a marble, in his canine fossa—at a time when his teeth were sound. The swelling had increased in size to that of a shellbark. During this period, the swelling would increase in size, discharge a small amount of non-offensive secretion, and then diminish again. Five days before the patient reported to me, he had pain and the discharge became offensive. The findings were typical of an infected dentigerous cyst; and, accordingly, an operation was performed. For the further details of this case, you are referred to the full report of it in the journal mentioned at the end of this paper.

I have with me an interesting specimen showing a large dentigerous

cyst that had invaded and partly replaced the cavity of the sinus. This same specimen shows other smaller cysts.

So-called INVERTED TEETH—or, better named by Cryer, impacted—may involve the maxillary sinus. An impacted tooth may be an unerupted permanent one, or it may be a supernumerary. I have here a monkey's skull, borrowed from the collection of Mr. Herman Walters, of this city, which shows numerous supernumeraries, which narrow the aperture pyriformis. Compare it with the other normal skull of the same species, from an animal of about the same age.

According to Cryer, whose theory seems to be quite logical, the tooth fails to erupt in its normal position, because of the interference of pathologically hard bone, which misdirects its course. The tooth develops, and erupts normally through cancellated bone. If, for any reason there should develop an inflammatory condition of the bone, with subsequent eburnation, before the seventh year, in the direction in which the tooth should normally erupt, then the tooth will erupt in some other direction, or according to the line of least resistance. It may erupt in an inverted position into the nose, the hard palate, the maxillary sinus, or even high up in the canine fossa, near the orbit. It was the privilege of the writer to operate on a case of inverted tooth in a child, a few years ago. This was a second bicuspid, which was formed high up, near the external canthus of the right eye. The photograph, I take pleasure in showing, the case having also been reported.

The cusps in this case were directed upward.

In all suspicious cases of impacted tooth, a skiagraph should be taken, with the object of corroborating the diagnosis and determining, too, whether there is more than one. The skiagraph should be carefully considered, together with the history of the case, and an exact count made of the teeth, with the object of determining whether the misplaced tooth is an unerupted permanent, or a supernumerary tooth.

CASEOUS DEGENERATION of pathologic secretions is not infrequently found in connection with acute or chronic maxillary sinus suppuration. It can hardly be dignified by considering it as a distinct condition, since it is a mere coincidence. It has no diagnostic characteristics that would interest the dentist. It is of interest more to the rhinologist. These same remarks apply more or less to cholesteatoma of the maxillary sinus, since it is more frequently a secondary condition to chronic

suppuration, as in the ear. Some few cases that have been diagnosed cholesteatoma of the sinus were, no doubt, cases of dentigerous cysts that had ruptured into the sinus. The same character of debris is found in both conditions (cholesteatoma and dentigerous cyst).

Concerning ACUTE ROOT ABSCESS, I shall not venture to say anything, believing that you, gentlemen, with your wider experience, can supply me with very instructive data.

Of the remaining conditions included in the list, and others not included, all are rare; and my experience is so limited that I do not feel warranted in discussing them, but shall refer you to the works of Cryer, Zuckerkandl, Hajek, Skillern, Magitot, Mallasez, Scheff and others. With an exhibition of the drawings and specimens, I beg to close.

REFERENCES.

- Skillern, 1—"Accessory Sinuses of the Nose." 1913.
 Cryer, 2—"Internal Anatomy of the Face." 1901.
 Zuckerkandl, 3—"Anatomie der Nasenhöle." 2 Band. 1892.
 Hajek, 4—"Nebenhohlen der Nase." 1909.
 Magitot, 5—"Die Cysten des Oberkiefers, etc.," *Jahnarztl Abhandl. ausland authorit.* Heft 3, Berlin. 1888.
 Mallasez, 6—"Compt. rend. u. mem. de la Soc. d. Biol." 1887.
 Scheff, 7—"Ueber das empyem der Kieferhöhle," etc., Wien. 1891.
 Mackenzie, 8—"Journal of Ophthalmology, Otology and Laryngology," June, 1912. "The Homœopathic Eye, Ear and Throat Journal," Feb., 1910.

POSTGRADUATE WORK IN VIENNA.

GEORGE J. ALEXANDER, M. D.,

Philadelphia, Penn.

THERE are constantly a number of physicians contemplating postgraduate work in the various branches of medicine in Europe (specially the ear, nose and throat) and particularly in Vienna, Austria, as this is the great medical center.

Because of numerous inquiries into this subject I venture to offer some observations made during fifteen months' stay in that great scientific center.

The University of Vienna is one of the best and most modern in continental Europe; Politzer, Alexander, Hajek, Chiari, and numerous other highly qualified men are ever ready to give the students their best efforts. My interests were confined to the ear, nose and throat, but I know from observation that the work in medicine, pathology, surgery, neurology, and Roentgenology is excellent and very well organized. The best organization however is that of the eye, ear, nose and throat. In the latter branches it is not absolutely necessary for the student to speak German, but that would be of great value if one wishes to work in the clinics or in the capacity of *Zimmer Arzt* (resident physician) also as an aid in taking histories and in understanding what the teachers say when questioning patients as well as take advantage of invitations to numerous good lectures given the University students, as is the custom of Alexander.

The clinical material is almost unlimited and the clinics are for the most part situated within a very small radius, thus concentrating the work in such a way that the student is saved a great deal of time and inconvenience; this is a very important matter, as will soon be realized by the student when he finds the number of hours of valuable work that are available to the man of serious intent. This advantage is the greatest of its kind in Europe; the foundation work, the minutia of detail that the student gets in these classes and clinics has no superior.

The students may be divided into two classes: (1) The working or clinic student, and (2) the didactic or course student. By this I mean, (1) The student who secures an appointment of "aspirant assistant"

in the department of the hospital and clinic in which he is interested; there he gets all the practical work in the wards and clinic with which to reinforce all his theory. (2) The student who is satisfied with only lectures and the clinic work he gets in classes.

The student of the first type prepares himself for the position of "aspirant assistant" by taking lectures and clinics until he has a working knowledge, after which he is eligible for the first opening. Having been appointed he is in a position where he constantly receives the personal instruction and interest of the chief and his assistants. This is particularly true in Alexander's Abtheilung (department) in the Allgemeine Polyklinik where Alexander has as his assistants Leidier, Benesi and Stein, all very clever and willing. These men keep very close watch of the students' work, always ready to lend a helping hand or explain anything not thoroughly understood.

Of course, where there is such a large body of students as represented by the American Medical Association in Vienna there is always a certain percentage dissatisfied; this may be the result of a number of causes: 1. A man may not plan his work properly. 2. He does not know just what he wants. 3. He does not make good in getting a hospital and clinic appointment, because he is not willing to do the hard and constant work necessary to advance himself to eligibility. 4. He may be inattentive to his work. 5. Knows it all. As a result, men leave Vienna and go elsewhere (mostly to Berlin) to get the *practical* work, operative and clinical. The disadvantages in that city, however, are: 1. Lack of proper organization. 2. The inattention of the important men to teaching, therefore the untrained, systemless character of this great essential. 3. The hospitals and clinics are widely separated, causing a waste of much valuable time. 4. Because of the inattention to teaching, a student must have much experience before he can get profitable work in Berlin. He must stay there for six months before he can get located in a clinic, etc., then in order to get the appointment must agree to stay at least six months and this before he is sure the work offered will be to his best advantage; hence the class of students above mentioned almost to the man either return to Vienna to finish their work, convinced that it is the best place *to really learn*, or they go home very unhappy and disappointed at having left Vienna for any other place before they had thoroughly learned their subjects. Of course there are on the other hand isolated instances where students

are fortunate enough by financial means or otherwise to arrange with prominent men in other cities for instruction and work in their clinics, and in some cases in their private work, with very satisfactory results.

But these are certainly not numerous, indeed quite the exception.

The writer mentions the foregoing, for the reason that he studied the situation very closely while in Vienna and had personal contact with those who thought they could do better in other cities but were doomed to bitter disappointment and failure, coming back to Vienna for another effort or going home to America much discouraged with their lot. The writer can cite isolated cases as examples of all the above conditions, but time and space will not permit.

As to comparison of what one can get in America with that which he can and will get in Vienna, there really isn't any. There is no partiality shown the Continental student over the American. All the work—didactic, clinical and most of the laboratory work—is regulated by the American Medical Association. By becoming a member of this organization, which every student should do, the student will place himself in line for the best work in all branches that is to be had. Bulletins of all courses are posted each month in the club rooms; these are signed by the men who wish to take them. The usual number of men to a course, didactic or clinical, being ten, the awarding of places is governed by an eligibility system which regulates itself by age of membership.

Let me call attention to the value of letters of introduction from a man who has—at some previous time—made a good record in the same position or positions for which one is applying. I would advise all students to try to secure one of these places as soon as he is far enough advanced.

Advancement and appointments usually depend upon the student's own efforts. Here is where he will get his real and valuable experience. As I have said these places are gotten on merit, in almost every instance, usually after taking a period of instruction from the teachers for which the student pays. The position when secured requires no further honorarium. Great interest is taken in the student who tries to help himself and his superior. Regularity, good work, interest and enthusiasm will win anything in the way of advancement from these great teachers.

Of paramount importance to secure such a position is that the ap-

plicant *must* be a *long term* student; by this I mean that he must remain in Vienna for one year or more.

He should first establish himself in the Anatomical Institute, which is a part of the University of Vienna, where he can do all the dissecting, operating on the cadaver and making of specimens he wishes; then secure a ward and clinic position, in order that he may get the practical experience at the same time he is getting the theory. They all dove-tail into one another most harmoniously and advantageously, clinching the work and experience as he goes.

This brings me to the description of the Ear Department of the Allgemeine Polyklinik. The head of this is Professor Gustav Alexander, whose early training in otology was received under that great otologist Hofrat Professor Adam Politzer. While this is not the longest clinic in Vienna it is the best, because of the system, the thorough and careful manner, in which the man at its head together with all his assistants carry out their work. Every attention is given all the patients that enter this department, each case is carefully studied and treated conservatively or radically as the history and findings justify; patients are not rushed on the operating table before they are carefully studied. This has several great advantages; for example: (a) The patient is given a fair chance to recover from an attack of an acute affection without operation; this develops judgment, which is important. Even in the case of a patient having an acute diffuse labyrinthitis, if they can feel reasonably sure that it is not of the suppurative type the case will be put under close observation and given 24 to 48 hours' chance to possibly save the labyrinth from certain destruction by operative procedures; I have seen several of these cases clear up, retaining the advantage of intact labyrinths. This however requires a thorough understanding of the subject and accurate judgment. (b) The student reaps the greatest possible good from this method inasmuch as he can have the advantage of observing the outcome of these cases.

There are two wards of seven beds each allotted to the ear department, one for women and another for men. Besides these, there are beds in the children's department devoted to ear patients. Another excellent feature may be mentioned: a spacious garden with grass, many varieties of flowers, trees and numerous walks where patients, as soon as they become ambulatory, are allowed to walk and sit a certain

number of hours each day, thus giving them the advantage of fresh air and exercise.

On arrival in the hospital the prospective surgical ear case is taken into the clinic, careful inquiry made into the present condition and an examination of the ears made by either Assistant Leidler or Benesi, after which the patient is admitted to the hospital. Then without any information as to their findings, the patient is turned over to one of the aspirant assistants who have been trained for this work by Professor Alexander and his assistants in their courses on functional testing, clinical diagnosis, treatment, etc. The procedure now is to prepare the case for presentation by the Professor to his class. First a most thorough history is taken—the family history, the patient's health during childhood and as an adult, leading up to the present condition—which is elicited from the patient in carefully guarded questions and every detail noted. This is in turn followed by the functional testing of the acoustic and static labyrinth, including the equilibrium tests. The history taking and testing is completed by making an otological examination, which means an objective examination of the auricle, external canal and middle ear, together with any symptoms of the head directly or indirectly referable to the existing ear condition and a macroscopic and microscopic examination of any secretion that is present. The history and findings are then studied by the Professor with his class at their next meeting, when he establishes the diagnosis and directs the disposal of the case.

The clinic is open twice daily from 8 to 10 A. M. and 4 to 6 P. M.; during these two periods from 100 to 200 patients are examined and treated. These patients present every disease that is known, from the simplest to the gravest intracranial complication. The aspirant assistant, has the best opportunity here, offered in Vienna, to study diagnosis and treatment, because one or all of the assistants are always present and ever ready to help with a difficult case. The student is not allowed to diagnose and treat a patient without the approval of one of the assistants, until they are satisfied and confident of his ability; when this stage is reached the working student has the pleasure of discussing the cases with these gentlemen on a somewhat equal basis and is given responsibility in diagnosing and treating patients independently. One's attention is always called to every interesting case found by the assistants or aspirant assistants, the latter often

exchanging cases for variety of study. All interesting cases or those about which there is a question as to diagnosis are discussed by the Professor, his assistant and all persons connected with the department, and every one can follow, treat and observe his cases from the time they come in until they are discharged.

The harder one works the more interest will be taken in him and the more work and responsibility will be given him; nothing of this quality in the student is ever missed by these four observant men, and every man will positively get all he deserves in the way of advancement, for these men are ever conscious of the purpose for which one is working.

The method of teaching and handling of the ambulatory cases is as follows:—The morning clinic is usually the largest and either Assistant Leidler, Benesi or Stein has a clinic class of four men, who are given all the new and interesting cases they can study and treat in this period of one hour. The remainder of the patients are taken care of by the other assistants and the working students, each of whom, by the way, is always allowed to see any of the cases which go before the classes if he so desires. The same schedule is carried out in the afternoon, with the exception that the material is for the most part utilized by Leidler and Benesi for their (two) classes of four men each. The residue will be given to an aspirant assistant if he can be there to take advantage of it. By this method both types of students are getting the best and most thorough clinical teaching and experience that can be had anywhere in Vienna—with one possible exception; I refer to a similar course given by Ruttin in the Urbantschitsch clinic. It must be conceded Ruttin is a very clever man, an excellent teacher and deserves a great deal of credit for the work he does and has done; many Americans owe much of their knowledge of the ear to his successful methods of teaching.

But let us go back to the Alexander clinic and see how the student is taught this clinical diagnostic course. He is first taught to recognize the normal anatomical parts of the auricle, external canal and tympanic membrane, then inflammation and swelling of the various parts, bulging of the drum membrane, abnormal growths, congenital or acquired, presence or absence of secretion and its character, granulations and other pathological material or structures, the normalities or abnormalities of the middle ear, as seen through the tympanic membrane when

it is very thin and atrophic or through small or large perforations or entire absence of the drum. All external manifestations characteristic of tumors, acute mastoiditis, subperiosteal abscess, Bezold abscess, sinus thrombosis, etc., are noted. The proper handling of instruments in the treatment and the testing of the hearing. Each student sees all the new cases he has time for beside peeks at interesting patients belonging to the other members of the class. This together with observing and treating his old cases every day keeps him very busy and gives him the double advantage of seeing new patients each day and following the course of the old one.

Professor Alexander lectures every morning from 9 to 10 o'clock to his class of ten to fifteen members who are in most instances Americans; at various intervals he is requested to lecture (in their native tongue) to classes that are formed for him by Italians, South Americans, Polanders, etc. Then there are the classes of students from the University of Vienna who come for a lecture each Saturday morning during the term. Next comes the "militär arzts," army surgeons, who are doing special work on the ear; these men come in the spring and remain from two to three months but these never interfere with his lectures to Americans, who are invited to attend if they can understand German. The Professor always has ten or more patients of various diseases lined up, he goes over each patient carefully and in each instance makes a very comprehensive drawing of the otoscopic findings which is handed to the patient; while he is doing this the students are studying the cases with the aid of the drawings. After each patient is studied all the patients are dismissed except those about which he intends to speak; these may be cases calling for conservative as well as operative treatment, for he tries to cover the field of ear diseases as fully as he can in the twenty lectures which constitute a course and do it as thoroughly as possible. Diagnosis is reached by exclusion.

After the lecture he takes the students to the various wards and there shows and talks on the progress of patients they had previously seen, and now operated, as well as others they had not seen or studied. By this time one and a half hours have been profitably spent, though his course calls for only one hour. From here the students are invited to the operating room where there are one or more operations done almost every morning. Hence in a course one can see a varied col-

lection of operations ranging from the most simple to the most radical. The students are reminded previous to taking the diagnostic course that they will be invited to take advantage of this hour in the operating room if it is possible for them to so arrange their time. The Professor demonstrates all the steps of every operation and when completed, before the wound is closed by sutures or dressings or both, the class is asked to come up one by one to view the work that has been done. To each the anatomical parts are pointed out and the object of operation explained. While the operation is under way, in order to see to the best advantage, the men are allowed to gather around the operating table as close as possible and are not kept at a distance by a brass railing.

What has the "aspirant assistant" been doing during the lecture and operation? If he took advantage of his privilege he was listening to the Professor and helping him present his cases during the lecture; he went to the wards with the Professor and class and later assisted in the operation, for it is his privilege to assist in almost all operations. This gives him a position of decided advantage at the operation, where he can study every procedure very profitably. After a reasonable time he is allowed to do the different operations under the guidance of one of the assistants, Leidler or Benesi. This, these two men do in a very able and kind way. They merely suggest and the student does all the work. After he has done one or more operations he begins with the last and very important stage of his training, redressing; he starts by working with an assistant until he learns the technique of after-treatment, after which he can call on an assistant at any time to corroborate or correct him in his work.

There is one other important feature connected with Alexander's work in the form of his *laboratory course*; upon this I cannot lay too much stress for it is one that the student of the ear cannot well afford to miss. It is a course in histopathology of the ear, conducted in his private laboratory and is by far the best thing given on this subject; the specimens, seventy in number, are considered the best there are to be obtained. They include all the histopathology of the ear, together with slides of the normal histology of the internal ear including the labyrinth. I consider this of vital importance to the student, because at the same time he is taking this course he is studying or has studied in some other class the macroscopic anatomy of the ear so that with

the aid of these specimens and the microscope he is enabled to better understand and clinch the subject.

The method of study is as follows: One can stain and mount the specimens himself, or he can have them already prepared for a nominal sum, personally I think the latter the better method because the student can better put in the time drawing and studying the specimens which is done in the following way. Each student is given a projecting apparatus which reflects all the outlines of the specimen on a piece of paper; these are then traced or outlined by the student, after this he again goes over the specimens and fills in all the parts with different colored crayons. This can be accomplished to the best advantage by the combined use of the projecting apparatus and the high and low powered microscopes, all of which are furnished with the course. After the drawing is finished the Professor takes the microscope and goes over each specimen with the student individually, carefully explaining every part, anatomical and pathological, noting and marking all the points on the drawing so that they can be used for review or reference at any subsequent time. By the time this work is done the student has a very clear and lasting knowledge of the anatomy of the ear normal and pathological.

Before concluding, we must not overlook other good places and men. For instance, in the Urbantschitsch clinic, which used to be the old Politzer clinic, there are some good opportunities with Ruttin, a man who is very clever in every way and shines especially as a teacher. He as well as Alexander was a part of the old Politzer clinic. Instruction, either in class or privately, can be gotten with such other good men as Barany, Neumann, Frey, and Bondy.

A great many things of importance and value can be said about the nose and throat work and some of its men, but I will mention only a few of the more important or prominent facts.

The Chiari clinic, the largest clinic and nose and throat hospital in the world, offers great clinical and surgical material, together with good instructors—Marshack, Kofler, Grünwald. Then there is that wonderful diagnostician and teacher, Professor Marcus Hajek, in the Franz Josef Spital, who must be credited with the development of our knowledge of the diseases and treatment of the nasal accessory sinuses together with a vast amount of other original work on the nose and throat. Another excellent teacher is Assistant Hierch, who did

the first practical operation on the pituitary body through the nasal route.

Finally, any student can add many refinements to his diagnostic ability by spending some time with Docent Johann Fein in his clinic, where the student is at all times under his personal instruction and every case is thoroughly studied. I heartily endorse his method inasmuch as he teaches the student how to make the diagnosis and then what it is, having him explain all he finds, when all the findings are again gone over and discussed by Dr. Fein; I consider his, the best place in Vienna to learn clinical diagnosis.

I cannot bring this paper to a conclusion without some mention of that "*grand old man*," the father of Otology, Hofrat Professor Adam Politzer, who has given the world so much original work on the ear, particularly the middle ear. While he is no longer able to take an active part in clinical work he devotes his time to writing. His works will live long after him, because they are all classics on the subject of Otology.

In conclusion, I wish to remind the reader that the object of this paper is to throw some light on the advantages Vienna offers as a post-graduate center for the medical profession. Also to suggest and explain how two types of students, the working student and the class student, may proceed to get the best out of their work and time. In order to do this to the best advantage I have taken for my illustration the Alexander clinic, which I consider one of the best, because of the available material and the personal interest the staff takes in the students. I have also attempted to show the difference between the two kinds of students as well as giving a short outline of the teachers and their work in other institutions.

1831 Chestnut Street.

ANTERIOR ETHMOIDITIS A FACTOR IN ORBITAL AND OCULAR DISEASES.*

LLOYD H. CLARK, M. D.,

Rochester, N. Y.

THE eye, the ear, the nose or throat has in the past been considered more of a separate entity than any one of these is today. Orbital cellulitis and periostitis have usually been said to be traumatic or, if no history of this origin could be obtained, they were considered tubercular or specific. Now, however, we know that ocular diseases may not only originate in the eyes and in the general system but also in the structures adjacent to the eyes. For some time past writers have called attention to the close relationship existing between nasal and ocular disorders.

It has been pretty conclusively proven that diseases of the posterior sinus group (sphenoid and posterior ethmoid) affect the chiasm and optic nerve, while diseases of the anterior group (anterior and middle ethmoid, frontal and maxillary) are more apt to affect the bulb and adjacent structures. Of the anterior group I shall consider the ethmoids only.

The size and shape of the ethmoid cell varies considerably. Loeb has made some very extensive investigations and has found that the measurements vary as follows: antero-posterior diameter 9 to 40 mm., supero-inferior 7 to 57 mm., lateral 7 to 29 mm.

There is generally some recognized defect in the construction of the nasal chambers to account for the origin of the sinus disease. It has been, I believe, very truly said that more anomalies exist in the nose than in any other portion of the body. Therefore there are a number of anatomical causes of intraocular complications in diseases of the accessory sinuses. Obstruction to drainage from a deflection of the nasal septum, from an enlarged or diseased middle turbinate or both, obstructing polypus or other nasal growths are most frequent causes.

That sinus disease may act as an etiologic factor in disease of the

*Read before the Monroe County (N. Y.) Homœopathic Medical Society.

optic nerve and of the orbit and its contents is now definitely established. The symptoms, too, vary according to the sinus or group of sinuses affected.

Three routes exist through which infection may be conveyed from the sinuses to the eye: by continuity, by way of the blood vessels, and by way of the lymphatics.

Dehiscences—holes or defects—are frequently found in the outer wall of the sinus which outer wall forms the inner wall of the orbit. These defects are most frequently located in the *os planum* or *lamina papyracea* of the ethmoid bone. They may be congenital or due to senile atrophy and by their presence the mucosa of the sinuses may come into direct contact with the periosteum of the orbit. This through direct continuity serves to spread the disease process from the sinus to the orbit and globe. Furthermore infection may be conveyed from one structure to the other even though no defects exist. Uffenorde says¹ “as the mucous membrane of these cells is so closely connected with the periosteum that it practically forms an anatomical unit, the inflammation goes over from one structure to another by continuity.”

The arteries and veins of the sinuses and orbit are very intimately connected. The venous supply of the nasal mucous membrane by means of the lacrimal plexus is in direct communication with the ophthalmic vein. The veins of the sinuses and orbit are without valves so that should the blood move backward and forward it is very easy for infection to be conveyed by this means to adjacent structures.

The third source is the lymph system. There is a very intimate connection between the lymphatic system of the sinuses and of the eye. However, at the present time there is some uncertainty as to infection being conveyed by this means.

The forms of involvement of the eye are many and depend upon the variety and severity of the ethmoid trouble. The symptoms vary according to whether the involvement is acute or chronic purulent or acute or chronic serous.

The acute purulent inflammation is frequently caused by the acute infectious diseases as influenza, scarlet fever, diphtheria. In such conditions there is usually a purulent discharge together with a swollen and congested mucous membrane. The eye symptoms of the acute and chronic ethmoiditis are practically the same with the exception that in the acute form they are naturally more severe. The degree of

intensity is also influenced by whether the abscess is open or closed—that is whether the pus has a free access into the nose. The ocular symptoms are present much sooner in the closed variety because of absorption.

In general the symptoms arising from such conditions may be divided into two groups, extra- and intraocular. Among the extraocular or orbital complications with which we are confronted at these times are: so-called cysts of the orbit, neuralgia referred to the supraorbital nerve, a displacement of the eyeball usually outward and slightly downward, and a disturbance of its motility and function. We may also have an abscess of the orbit, exophthalmos, cellulitis, periostitis, and conjunctivitis. In this connection Dr. Roe, of this city, recently reported two cases of orbital abscess from infection through the ethmoid. He also called attention to the ease with which infection may be conveyed to the orbit. Of the intraocular complications there may be present dilatation of the pupil, surcharging of the retinal vessels, asthenopia and changes in refraction.

Headache in these conditions is a very pronounced symptom. It may vary in its intensity and is usually most pronounced in the parietal and occipital regions. There may be burning and lancinating pains about the orbit and over the root of the nose. Weakness of vision may be present, especially on reading by artificial light, which condition may be caused by a weakness of the internal rectus muscle from an absorption of toxins, together with dizziness and vertigo.

The chronic catarrhal, serous, or hyperplastic inflammation is one which appeals to me as being by far the most obscure. By a rhinoscopic examination one may be able to detect very little and possibly no pathological changes. There may be no apparent discharge or if present it may be thin, watery, very scant, and not constant. The mucous membrane may appear normal or slightly edematous.

There has been much discussion and much difference of opinion as to the etiology of these nonpurulent sinus diseases. That they are of bacterial origin with a low grade of infection not sufficiently virulent to set up inflammatory conditions is the opinion of some. Closure of the ostium by swelling of the soft tissues is also believed to be an etiologic factor. A. H. Andrews² believes this latter theory and puts forth this contention in support of his claim. He says, "We have been able to watch the results of the exclusion of air from the middle ear.

We have seen evidence of the absorption of the air remaining in the cavity. We have seen nature, in her effort to preserve the equilibrium of pressure, fill the blood vessels causing arterial and venous congestion. We have seen the ear become filled with a seromucous accumulation as a result of these conditions. The other accessory cavities of the nose are larger in area, are more freely supplied with blood, and we have reason to believe that they respond to reduced atmospheric pressure more quickly than does the middle ear." This seems to him to be an excellent means of accounting for some of the noninflammatory conditions we find in operating. While there are many other elements entering into the production of nonpurulent disease of the cavities, especially the ethmoid cells, he believes the reduced or negative air pressure is the most important etiologic factor.

I shall take the liberty of quoting from the work and observations of Uffenorde.¹ Speaking of diseases of the anterior ethmoid sinus he says: "Of the chronic inflammations the one by far the most common and the least recognized, at the same time presenting the most varied and complex symptoms, is that of *ethmoiditis hyperplastica anterior*. This condition is caused by repeated and prolonged irritation (frequent attacks of coryza, influenza, long exposure to dust surroundings, etc.) and is always confined to the body of the ethmoid capsule, being characterized by polypoid swelling of the mucous membrane of the basal cells."

Unless this variety of inflammation is very severe or has extended over a long period of time it may be impossible to diagnose any trouble from rhinoscopic examination. If by the aid of a probe we find that the mucous membrane covering a large part of the ethmoid is continually soft and edematous we can be certain that some changes have taken place.

The nasal symptoms of this condition when present are a clear watery secretion which drops from the nose, is worse on leaning forward, and has been noted repeatedly to start especially at the beginning of a meal.

One of the most pronounced symptoms of this condition is the headache, which is characterized by pain, neuralgic in character, radiating along the supra- and infraorbital ridge and which causes a marked sense of pressure over the bridge of the nose. These headaches are worse in the morning and after lying down. At times they simulate

eye headaches very closely and are brought on or aggravated by using the eyes for any close work. Andrews² explains this by saying that "this may possibly be accounted for by interference with the accommodation but it is more likely that the inflammation extends through the thin bony partition between the ethmoid cells and the orbit and optic foramen where the internal rectus muscle is attached causing impairment of function of this muscle and hence "pain on attempting to converge the eyes for close work."

There may also be asthenopia, photophobia, lachrimation or tearing, a mild chronic conjunctivitis and cysts of the orbit with or without a displacement of the eyeball. These patients are usually of a neurasthenic temperament and the severity of these symptoms depends largely upon this condition as well as on the extent of the disease.

In this connection the following case may be of interest. In February of last year Mrs. B. was referred to me for an eye examination. She complained of smarting and burning and that she was having great difficulty in keeping the eyes open. She was unable to read longer than five or ten minutes at a time without the print blurring and letters running together. Vertigo had been a troublesome symptom for some time, it was made worse by riding. Headache was present across the forehead, worse over the right eye and in the morning but better as the day passed. All symptoms had been more troublesome for the past three weeks. Patient had worn glasses for three years and upon examination a slight change seemed advisable. However, before wearing the glasses for a trial in my office, a nasal examination was made because of the character of the headaches. After the nasal mucous membrane was shrunk down both middle turbinates were found to be large, slightly edematous, and causing slight pressure. She now read with my prescription for at least half an hour and with her own glasses for as long. This latter aroused my suspicion that the trouble was not primarily in the eyes. Treatment by means of argyrol tampons was instituted and later the anterior half of the right middle turbinate removed. This without change of glass relieved the condition. It is my belief that the eye symptoms originated from a chronic hyperplastic ethmoiditis and that the removal of the obstruction to drainage was the keynote to success.

Although the number of eye conditions having their origin in the nose is comparatively small yet in all stubborn eye cases which do not

respond to treatment it is well to keep the possibility of contamination from adjacent structures continually in mind. It is oftentimes impossible to be absolutely certain as to the etiology for, as we have said, the nose may be at fault and yet upon rhinoscopic examination may appear normal or seem to be too little affected to be the source of trouble. Furthermore the patient may deny absolutely the presence of any catarrh or that any such condition has ever existed and may therefore refuse treatment. It seems to me that the best course is first of all to satisfy ourselves that the etiology of the trouble is in the sinus and then by all legitimate means attempt to convince the patient of the wisdom of our proposed course.

REFERENCES.

1. Skillern: A discussion of the various inflammations of the ethmoid bone as advanced by Uffenorde in his work, "Die Erkrankungen des Siebbeines."—*Annals of Otology, Rhinology and Laryngology*, March, 1910.
2. Andrews: Nonsuppurative sinusitis.—*The Journal of Ophthalmology and Oto-Laryngology*, March, 1912.
275 Alexander Street.

HOMŒOPATHIC MATERIA MEDICA AND THERAPEUTICS.

Some Eye Remedies.

JOHN L. MOFFAT, M. D.

CONIUM MACULATUM.

Objective.—White of the eye yellow. Pupils dilated and sluggish. Lacrimation. Can hardly raise the lids. Paresis of the extrinsic muscles.

Subjective.—*Intense photophobia, with intense redness. Weakness and dazzling of the eyes with giddiness and debility, specially of the arms and legs so that on trying to walk he staggers as if drunk. Pressure in the eyes, sleepy, while reading. Lids seem pressed down by a heavy weight. Burning in the eyes and lids. Smarting in the inner canthus, as from something corrosive.*

Vision.—*Accommodation sluggish.* Vision good for fixed objects, but when the object is in motion there is a haze and dimness of vision with vertigo.

Characteristics.—Conium is the first remedy when *photophobia or pain is excessive, is out of all proportion to the amount of trouble; the nerves are hyperesthetic, their terminal filaments (in the cornea) are exposed. Superficial abrasions with great photophobia or pain.*

Clinical.—It is one of the principal remedies for keratitis (ulcers, pustules) if the inflammation is superficial, involving only the epithelial layer, and caused by cold, trauma or scrofula. Hyperesthesia of the retina frequently calls for this remedy. In one such case (cured) *all colors appeared white*; photophobia was most intense, but external and internal examination of the eye revealed nothing abnormal.

CROCUS SATIVUS.

Objective.—Mydriasis. Visible twitches in the lids; upper lids. Must wink frequently.

Subjective.—Excessive photophobia. Inclined to press the lids tightly together from time to time. *Feeling in the eyes as after violent weeping.* Feeling as though water were constantly coming into the eyes, not when in the open air. After reading a while, even during the day, eyes pain with sore burning and some dimness so that he was very frequently obliged to wink. Feeling as of biting smoke in the eyes.

Vision.—The light seems dimmer than usual as if obscured by a veil. Frequently has to wipe and wink the eyes as though a film of mucus were over them. Photopsies—sudden flashes like electric sparks.

Characteristic.—Sensation as if something alive were in the abdomen.

Clinical.—Asthenopia. Ciliary neuralgia. Posterior sclerochoroid-

itis. And in other diseases: Pain in eye to top of head. Pain in left eye darting to the right. Sensation of a cold wind blowing across the eyes. Constant winking with eyes suffused with tears.

CROTALUS HORRIDUS.

Objective.—*Yellowness of the eyes.* Blue rings around the eyes. Blood exudes from the eyes. Aqueous humor cloudy. Lacrimation. Redness of the eyes.

Subjective.—Pressure above the eyes. Burning in the eyes.

Characteristics.—A valuable remedy which well repays study; it is to be differentiated from the other snake venoms. Like them it disorganizes the blood; it acts primarily upon the cerebrospinal nerve centers.

Clinical.—Crotalus is the great remedy for yellow fever. In ophthalmology it is used principally for *absorption of intraocular hæmorrhages*, into the vitreous, but particularly for *noninflammatory retinal hæmorrhages*.

CROTON TIGLIUM.

Objective.—Conjunctivitis. Copious lacrimation. Lids edematous.

Subjective.—Violent pains in the eye. Stinging in the eyeball. *Tensive pain above the right orbit.* Eyes feel drawn backward.

Clinical.—As might be expected from its action on the skin, croton oil is often of great service for vesicles and pustules on the eyeballs or lids, and in herpes zoster ophthalmicus.

SOCIETIES.

AMERICAN HOMŒOPATHIC OPHTHALMOLOGICAL, OTOLOGICAL AND
LARYNGOLOGICAL SOCIETY.

Office of the President, Albany, N. Y., March 31, 1914.

Fellow Members:—

It is the desire of your President that the meeting at Atlantic City should be one of the most successful in the history of our society. To make it so, every individual must co-operate with their officers. This means not alone promises of papers, but it means placing them in the hands of the Secretary at an early date, so that those who are to discuss them may have sufficient time to properly digest their contents and prepare appropriate discussions. Please bear in mind that all papers should have been in the hands of the Secretary by April 1st. This is the Law, as called for by Article 6, Section 2, of our Constitution.

Our society is a homœopathic society, and yet there is an evasion on the part of its members to write upon the drug therapy which has made our society possible. Divorce our society from homœopathic therapeutics, and there is no need for the society.

Papers which are mere excerpts from Allen's Hand Book are not the kind of papers which I desire or approve of. There should be sufficient in the experience of all our members to warrant a goodly number of papers of scientific value, upon homœopathic therapeutics. This one item which is the reason for homœopathy is the very thing that the members of our society are neglecting.

This appeal is to the society in general and to every individual member; I trust that it will be taken into consideration, and that some among you will rise to the occasion and advise at once your Secretary, Dr. Dean Myers, at Ann Arbor, Mich., of your purpose to present some paper along homœopathic lines.

Fraternally yours,

J. IVIMEY DOWLING,

Pres. A. H. O., O. and L. Society.

Office of the Secretary, Ann Arbor, Mich.

To the Members of the American Homœopathic Ophthalmological, Otological and Laryngological Society:

Greetings:—This is the last word you will hear from the officers of the society through the medium of this journal before the next annual meeting. We take pleasure in extending to you all a cordial and most urgent invitation to begin now to make your plans for the next conclave at Atlantic City. As you all doubtless know, this will take place the last week in June (June 29th to July 4th).

Everything points to a very successful meeting this year. The usual attractive features of Atlantic City will be at your disposal, together with the sociable program of the Institute. We will also go to Philadelphia for at least one day of clinics. Definite plans for this clinic will be announced in the program.

Just to bait you on a little and whet your appetite for some of the good things, we publish the following partial list of what is in store for you. Please mark off the dates from your calendar now. Do not think because some other fellow is going that will excuse you. We want you personally and not an excuse. Look over the following and see what you think of it.

Yours for a rousing meeting,

J. IVIMEY DOWLING, *Pres.*

DEAN W. MYERS, *Sec'y.*

PROGRAM.

1. "Sympathetic Choroiditis, with Pathological Findings," by Frank O. Nagle, M. D., Philadelphia, Pa.
2. "The Surgical Treatment of Glaucoma," by Augustus Angell, M. D., Hartford, Conn.
3. "The Sense of Smell and Its Perversions; Some Conclusions Founded on the Examination of Three Hundred Employees of the Consolidated Gas Co.," by R. S. Copeland, M. D., New York, N. Y.
4. "Occupational Diseases and Injuries of the Eye and Their Prevention," by Wm. M. Hillegas, M. D., Philadelphia, Pa.
5. "Conservation of Vision," by A. B. Norton, M. D., New York, N. Y.
6. "Ethmoiditis," by Irving Townsend, M. D., New York, N. Y.
7. "Positions for Skiagraphing the Nasal Accessory Sinuses, with Illustrations," by Douglas Macfarlan, M. D., Philadelphia, Pa.

8. "Eye Lotions and Washes," by C. A. Harkness, M. D., Chicago, Ill.
9. "A Consideration of the Neuroses of the Nose and Throat," by Geo. B. Rice, M. D., Boston, Mass.
10. "The Fusion Faculty," by Geo. A. Shepard, M. D., New York, N. Y.
11. "Experience with Silicea, Alumina and Platina," by Jos. A. Sternberg, M. D., Boston, Mass.
12. "Pneumomassage in Middle Ear Catarrh," by H. D. Schenck, M. D., Brooklyn, New York.
13. "Modern Management of Syphilis in Relation to the Eye, Ear and Throat" (Symposium), by Burton Haseltine, M. D., Chicago, Ill.
14. "Prompt Curetting of Morbid Tissue in Ulceration of the Cornea Occurring During Keratitis," by H. W. Champlin, M. D., Towanda, Pa.
15. "Some Opacities Treated," by E. D. Brooks, M. D., Kalamazoo, Mich.
16. "Ear, Nose and Throat," by H. W. Hoyt, M. D., Rochester, N. Y.
17. "Glaucoma," by Frank B. MacMullen, M. D., Detroit, Mich.
18. "Some Ear Cases," by E. H. Linnell, M. D., Norwich, Conn.
19. "Worth Advancement Operation with a Report of Fifty Cases," by D. W. Wells, M. D., Boston, Mass.

AMERICAN INSTITUTE OF HOMŒOPATHY—A MIXTURE OF MEDICINE AND
THE SEA SHORE.

Few physicians need to be reminded that the American Institute of Homœopathy meets at Atlantic City, June 28th to July 3d, inclusive. The meetings at this popular resort are always well attended but this year promises to eclipse all others both in the number of attendance and in the general interest displayed. There is an unmistakable evidence of a widespread enthusiasm all over the country concerning Homœopathy. It begins to take on the complexion of an old time revival.

The lukewarm, the weak-kneed, the chronic knockers, and the doubting Thomases seem to have received a hypodermic injection of co-operation serum and are falling over themselves to help boost the Institute. Even the fence straddlers, who seem never to know upon

which side it is best policy to alight, have sent word that they are coming.

One member from Rhode Island writes, "It is not a question in this state who is going to the Institute, but rather, *who* is going to stay home to look after the patients."

Numberless letters are daily coming to the officers of the Institute expressing the highest hopes and the profoundest belief that the coming meeting will far eclipse anything ever yet held under homœopathic auspices. It was a remarkably significant fact that out of one hundred and fifty physicians who were requested by letter to take the onerous task of pledging themselves to secure ten new members each and thus become the President's Cabinet of One Hundred, one hundred responded within a few weeks, and up to date eighty have accepted the job with enthusiasm.

Nearly every Bureau Chairman has had responses from more essayists than he has had places to fill. North, East, South, and West give evidence of the same intense desire to co-operate in making the coming meeting the greatest ever held. There is no alternative about the matter; we must do it, and we must do it now. Our future existence hangs in the balance. That we can do and will do it there is no shadow of a doubt.

Dr. Costain, Chairman of the Transportation Committee, has his arrangements completed for a special splendid train from Chicago, which will bring all the members from the Northwest to Philadelphia, Washington, and Atlantic City en masse. The Philadelphia and Washington fellows have their plans completed to entertain, by trolley and auto rides, the arriving guests during the few hours' stop allotted in those respective cities.

All of the meetings will be held in the comfortable, commodious, and fireproof hotel, the Chalfonte. The meeting rooms are far removed from the noise of the ocean and street traffic. Members who are fortunate enough to secure rooms in the Chalfonte will not be obliged to leave the hotel for any of the regular meetings. Hence, be wise and engage your accommodations at once. The Chalfonte is conducted on the American plan exclusively; prices from \$3.50 to \$6.00 per day.

Many concessions have been secured, which will place all of the attractions of the Board Walk and Beach at a nominal cost. Numerous delightful entertainments, including a deep sea sail, have been arranged

for the guests without cost. The last evening, Friday, July 3d, will be a frolic night, at which every visitor is expected to be present. Nothing like it since Barnum's time.

Come to the Institute meeting! Show your loyalty to the Cause which gives you your bread and butter; learn something which will make you a better doctor; give something which will help the other fellow to be as successful as you have been! Let your patients know that you are progressive and are going for their benefit. Come and thereby get a change of environment and faces, essentials for longevity. Come and have a bully good time, for you may not have it in the hereafter!

DEWITT G. WILCOX,
President.

CURRENT LITERATURE.

WM. McLEAN, M. D.,
New York.

FRANK O. NAGLE, M. D.,
Philadelphia.

ANNALES DES MALADIES DE L'OREILLE, DU LARYNX, DU NEZ ET DU PHARYNX. Tome xl, 1. Janvier.

*1. Traitement radical par voie endonasale de la dacryocystite suppurée chronique. N. Taptas (Constantinople).

*2. Indications et technique de la trépanation labyrinthique. A. Hautant.

*1. **Operation.** Prepare the patient as for submucous septum resection. A couple of cocain-adrenalin pledgets as high as possible in the olfactory fissure, injection of a $\frac{1}{2}$ per cent. novocain-adrenalin solution even with the internal face of the ascending apophysis of the superior maxilla. Incise to the bone the mucosa before the head of the middle turbinate, commencing as high as possible and ending on a level with the attachment of the inferior turbinate. Raising the mucosa with a rasp we see at once the orifice of the bony nasolacrimal canal. Separate the membrane as high as possible and excise a part of it. Then attack the bone with bayonette gouge and mallet commencing on the maxillary apophysis laying bare the sac, a lacrimal sound having first been introduced and left inserted all through the operation. Once the upper part of the canal bared, one can, checking its walls with any instrument whatever, see by the bulge of the sound that one is on the right track. The sac well bared, the sound partly withdrawn then turned in can with its end make the internal wall of the sac jut into the nose.

This wall is then seized with mouse-toothed forceps for foreign bodies in the ear and as much as possible excised with a fine bistoury. The sound will then be free in the nose and its horizontal position shows that the excised part is at the height of the lacrimal canals—which is sufficient proof that the sac has been opened.

The mucosa is replaced, taking care that the region of the sac is not covered, otherwise all the part of the mucous membrane corresponding to the region of the sac is excised.

The patient is returned to the oculist for lavage of the lacrimal pas-

sages. The nasal wounds are left to cicatrize spontaneously, which takes about a fortnight. No postoperative tamponing is required.

Caldwell opened the lacrimal canal after resection of the inferior turbinate in 1893. The author is convinced that, now, the radical treatment of dacryocystitis belongs to rhinology.

*2. A masterly exposition of the subject—100 pages, of which 14 are devoted to bibliography. It is well worth reading; abstracting cannot do it justice.

KLINISCHE MONATSBLÄTTER FÜR AUGENHEILKUNDE.

Januar.

1. Ueber die Sklerektomie nach Lagrange und die Trepanation nach Elliott. Prof. J. Meller.

*2. Ueber Blutungen in der Retina bei Miliartuberkulose. Prof. Dr. Stock.

3. Ueber Stauungspapille bei Leukämie und Gelbfärbung des Augenhintergrundes durch im Lymphom der Choroidea. Dr. T. Kambe.

4. Ein Beitrag zur Kenntniss der "geschürigte" der Meibomschen Drüsen. Dr. R. Scheerer.

5. Ueber angeborene zyklische Okulomotorius Erkrankung mit einseitigen akkommodationskrampf. Prof. E. v. Hippel.

6. Eine Lappenentzündung nach Elliottschen Trepanation. Dr. E. Bachstetz.

*2. Ueber Blutungen in der Retina bei Miliartuberkulose. Prof. W. Stock.

Axenfeld at the International Ophthalmological Congress in Naples, 1909, first reported that certain forms of retinal hæmorrhages in all probability depended on a tubercular affection of the retina. He reported several clinical cases. Besides hæmorrhages from the veins small ruptures could be seen. The whole process was a local injury to the vessel walls through the tubercle bacillus or its toxins. Axenfeld's conclusions were that there exists a hæmorrhagic form of bulbus tuberculosis. Since then several "Arbeits" on this subject have appeared (Igersheimer, Cords, A. Knapp, Gilbert). All of these authors agree upon the peculiar fact of several local retinal hæmorrhages, which could be traced to actual breaks in vessel walls. All of the observed patients suffered from tuberculosis.

Stock reports from a clinical and anatomical standpoint a case where no special diagnosis could be made by the internist. Retinal hæmorrhages as above described were present. The opinion was that a septic condition prevailed. In one eye miliary tubercle developed before the patient's death.

Stock calls attention of the ophthalmologists that retinal hæmorrhages do not always indicate a general septic condition and that a general miliary tuberculosis may produce retinal hæmorrhages.

**ALBRECHT VON GRAEFE'S ARCHIV FÜR OPHTHALMOLOGIE,
Heft 1.**

1. Experimentelle und Klinische Untersuchungen ueber die hemmende und obtotende Wirkungen von Anilen farbst offen auf Augenpathogene Keime. Contrastlinien. Dr. Groes Peterson.

2. Beitrag zur Experimentellen Sporotrichose des Auges. Dr. Theodor Fisher.

3. Pathologisch anatomische Augenbefunde bei einem Fall von chronischer Aethylalkohol Intoxikation mit Sekundärer Urämie. Dr. B. Seherurnzky.

4. Weitere Mitteilungen ueber die metastatische Conjunctivitis bei Gonorrhoeikern. Dr. H. Davids.

CENTRALBLATT FÜR PRAKTISCHE AUGENHEILKUNDE.

Zur Wirkungsweise des Eserins. K. Wessely.

Concerning the action of eserine, especially its relation to intraocular tension and the intraocular circulation, there is no positive clearness. Author has observed a case where one drop of a 1 per cent. eserine solution caused an acute attack of glaucoma in an eye which was predisposed to that disease. Three days later, one drop of $\frac{1}{2}$ per cent. of eserine caused another acute attack of glaucoma in the same person.

Eserine is a vasoconstrictor remedy. The external vessels of the bulb contract. What is the action of eserine on the internal vessels of the eye? This question and the one concerning the action of eserine on the intraocular tension brings up many difficulties in their solving. Schiötz's tonometer has not succeeded in giving us a uniform result whether eserine causes no change in the tension of the eyeball or whether it reduces it. Author then gives a graphic description of the intraocular tension on rabbit eyes one hour after using 1 per cent.

eserin. The changes in intraocular tension took a typical course in all cases. Ten to 15 minutes after instillation the tension rises, reaches its maximum 10:15 minutes later, then gradually sinks and within an hour it reaches the same tension as it was before instillation of eserine. The tension varies between 517 mm. Hg. Furthermore, is the instillation of eserine accompanied with hyperemia of the iris and the ciliary processes? Proof thereof is the increased albuminous contents in the anterior chamber.

Wessely's conclusions are that eserine causes a reactive hyperemia of the iris and ciliary processes which is accompanied with a qualitative interference of the lymphatic circulation and a typical temporarily increased intraocular tension accompanied.

REVUE GENERALE d' OPTHALMOLOGIE, Fevrier 31.

*Cataract extraction with a small free conjunctival flap. Prof. H. Truc.

*Truc prefers this to the large adherent flap or the conjunctival bridge, he makes it almost systematically. In this operation (the cornea having been incised from 1 or 2 millimeters above the horizontal diameter of the clear cornea with knife parallel to iris as far as the summit of the transparent cornea), at this level the conjunctiva is raised and cut regularly 1 or 2 millimeters from and concentric with the corneal section; the flap may be a little larger above than at the sides and can be a little irregular. The fixation forceps are raised and a drop or two of coca-adrenalin instilled. If there is any hæmorrhage at the level of the wound irrigate gently with warm serum. The flap is reversed upon the cornea with padded forceps and the operation proceeded with. After extraction, toilet, and careful coaptation of the corneal wound the conjunctival flap is very exactly replaced, above and at the sides, with a spatula; usually its coaptation is almost immediate. He never needs sutures.

ANNALES D'OCULISTIQUE. Fevrier.

1. Quelques reflexions sur le cristallin normal et pathologique. S. Druault-Tonfesco.

2. 32 cas d'ophtalmies gonococciques traitées par le vaccin de Nicolle et Blaizot. A. Offret.

3. Valeur de la suture de la cornée (procédé de Kalt) dans l'opération de cataracte. Poirault.

4. Corps étranger du vitré insoupçonné, extraction a l'aimant par sclérectomie postérieure. Genet.

J. OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY. February.

1. What the State can do to prevent blindness. Willis O. Nance.

*2. The blood-clot method in mastoid operations. Albert H. Andrews.

3. Chicago Ophthalmological Society.

*2. Recommended in simple mastoid operations. Advantages:

(a) When successful, aftertreatment is five or six days instead of several weeks.

(b) Avoids the usual scar and deformity resulting from long packing.

(c) None of the distress of draining and packing methods.

In ideal cases the wound requires no attention after the sutures are removed except the application of a collodion dressing. This operation is limited to acute and subacute cases. Essentials for success:

(a) The operation must be thorough. All (as nearly as possible) of the diseased bone and the infectious material must be removed from the mastoid.

(b) The tympanic cavity proper and the auditory canal must be thoroughly cleansed.

(c) No unnecessary trauma. Wound closed by interrupted sutures or a continuous subcutaneous suture.

(d) No antiseptics.

(e) "The method should be undertaken" [evidently a typographical error—*not* undertaken] "when there is evidence of great virulence of the infection or when there is involvement of the brain or lateral sinus."

"Should not be attempted when recuperative powers seem to be below normal"—as in tuberculosis, diabetes, etc.

Normal human blood has bactericidal power in varying degree, greater after drawn from the vessels than while circulating intravascularly.

Its microbe destroying substance is found in the serum but produced by leucocytes. This property of the blood naturally diminishes after the clot is 48 hours' old; it can be increased or diminished by induced chemical changes.

The bacterial properties of fresh blood depend upon its alkalinity;

enhanced by increased alkalinity, but becomes negative if the blood is made acid. Alcohol, and most other antiseptics, lessen the bacteridal property of the blood, apparently by precipitation of the albuminoid.

Experimental and clinical studies have shown (Reik) that if any clean wound be filled with the patient's blood, and safeguarded from later infection, the clot tends to organize into tissue similar to that surrounding the clot.

It is not possible to know in any given case whether the clot will organize or break down.

If there be redness or swelling along the wound margin or the stitch holes show evidence of suppuration, drain the cavity! Open a small place with a probe and insert a small gauze ["cigarette"] wick, which usually is best changed daily. Do not wash or use peroxide, etc.

"It seems to be the unanimous opinion" that, even if the clot breaks down, and is drained, these cases recover more rapidly than under the old plan of packing. In the tympano-mastoid cases the author uses only sufficient gauze in the cavity to hold the flap in position, allowing the rest of the cavity to fill with clot which usually breaks down. He strongly suspects that any operation which is not successful under this plan of treatment would also have continued to suppurate under the older method; *i. e.*, the failure lies in the technique of the operation rather than in the aftertreatment.

JOURNAL OF THE AMERICAN INSTITUTE OF HOMŒOPATHY February.

Conservation of vision (editorial). A. B. Norton.

March.

Acute middle ear catarrh and chronic deafness (editorial). G. M. McBean.

PACIFIC COAST JOURNAL OF HOMŒOPATHY. February.

4. A case of hysterical blindness. Francis B. Kellogg.
6. Exophthalmic goitre. J. S. Hunt.

March.

- *2. Arsenicum iodide in coryza. H. F. Bishop.
5. The role played by the nose and mouth in the etiology of tuberculosis. Hamilton Stillson.

*Our indications for the use of arsenicum iodide are of clinical origin, not directly pathogenetic. The author has successfully employed it for *acute coryza with symptoms of a hay fever type*, but of less severity, in patients of the nervous type; there is *aggravation by sneezing*. The patient has taken a slight cold, nose and throat moderately irritated. He sneezes, and immediately there is a change: irritation, slight Eustachian itching and increased pharyngeal discomfort. The best relief is from the 3x before or soon after the sneezing begins.

One patient has an atrophic tendency of the pharynx and its vault, the postnasal discharges tend to be uncomfortably thick when he takes cold and the postpharyngeal follicles become enlarged, red and tickle distressingly, specially at night. Given early this remedy aborts the attack; if later, it modifies the character of the discharge and the follicular congestion.

Dr. Bishop confirms the value of ars. iod. (2x) for tubercular patients with bronchitis and profuse free mucopurulent expectoration.

NEW YORK STATE JOURNAL OF MEDICINE. March.

2. Chronic stenosis of the larynx. Thomas J. Harris.
9. Tumor of the hypophysis cerebri. Lew Henri Finch.
11. Diagnosis and treatment of iritis. R. L. Prockett.
- *12. Streptococcic throat disease. Halsey J. Ball.

*12. 554 cases of an infectious disease having local manifestations in the throat and neck occurred in and near Cortland, N. Y., from April 23 to May 7, 1913. This "epidemic sore throat" has been noted in this and other medical journals, but in no text book, as yet. Some of the cases suggested mumps, quinsy and diphtheria, but lacked their characteristics. 90 per cent. of the patients were supplied with milk by one milkman. Two cows were found ill with mastitis; their milk contained streptococci similar to if not identical with the streptococci found in cultures taken from the patients' mucous membrane. The city compelled that milkman (and now all milkmen) to sterilize daily all utensils used in procuring, storing and delivering milk, whereupon the epidemic promptly succumbed.

ABSTRACTS.

The Retinal Rods and Color Blindness. Siven proves, by a study of Purkinje's phenomenon and of santonin xanthopsia that Schultze was wrong in saying that the rods take no part in color perception. Siven says that the rods are organs which can also transmit perception of colors, specially that of light of short wave length.—*Arch. f. Augenh.*, v. lxxi, p. 157, 1912, abs. in *Rev. Gén. d'Ophthalmologie*, Janv., 1914.

Blindness from Filix Mas. A man, aged 25 years, took for ankylostomiasis, 18 capsules of ethereal oil of filix mas, and 12 capsules the next morning (15 grammes in all). The same day, despite a saline purge, there developed headache, buzzing in the ears, palpitation, vomiting, waves of heat, and shaking alternating with prostration.

The next day, after a bad night, he awoke completely blind. There was moderate mydriasis, no pupillary reaction, no light perception, moderate binocular papillitis with signs of stasis, but without hæmorrhages nor macular lesions. In spite of the upbuilding general treatment, subconjunctival injections of sodium chloride and of sodium nitrate, the appearance of postneurotic atrophy replaced that of papillitis and the blindness remained definite and complete.

The literature is reviewed and the danger insisted upon of even moderate doses of the oil of filix mas. It would be prudent to replace this vermifuge with strong doses of thymol for ankylostomiasis.

Perrod notes that the discs of this patient, particularly in the right eye, during the atrophic stage showed some little spots of pigment run together in the nasal border. Antonelli holds that this new formation or pigmentary migration confirms the importance of the pigmented outline, total or in sector, that has been noted following neuritis or neuroretinitis among the rudimentary ophthalmoscopic stigmata of congenital syphilis. Antonelli insists that this pigmentation is clearly different in disposition and aspect from the choroidal ring.—*Annali di Ottalm.*, xlii fasc. 1, 2, 1912, abs. in *Rev. Gén. d'Ophth.*, Janv., 1914.

Bitemporal hemianopsia is often the only symptom of a tumor of the hypophysis; at other times there is acromegaly, simple or associated with adiposity and genital troubles (Fröhlich's syndrome); and sometimes one finds, at first, only a double, bitemporal, scotoma possibly running little by little into true bitemporal hemianopsia and even to blindness. Bitemporal hemianopsia does not always mean hypophyseal tumor. Confirm the diagnosis by radiography. First try intensive antisiphilic treatment; this failing try, with prudence, hypophyseal extract, for Renon and A. Delille have seen this aggravate acromegalic

troubles; finally one can resort to radiography (Beclère) and as a last resort there remains surgical ablation of the tumor—too dangerous to be advised except in extremis (three successes in 25 cases operated).—F. Terrien, *le Prog. Méd.*, 14 Dec., 1912, abs. in *Rev. Gén. d'Ophthalm.*, Janv., 1914.

Blindness Following Acute Posthæmorrhagic Anemia. When the ophthalmoscope shows enlarged tortuous veins and filiform arteries these show a disturbance of the normal equilibrium between the intra-ocular venous tension and the obstacle which the blood must overcome to escape from the eyeball. Retinal ischemia is due as much to insufficiency of arterial supply as to venous obstruction; in certain cases, however, says Bettremieux, a paracentesis or an iridectomy can re-establish the circulation by lowering the tension. He has obtained the same result with his simple sclerectomy in a case of chorioretinitis with repeated transitory visual troubles due, according to him, to retinal ischemia. This operation, drawing venous blood to the fibrous pericorneal region (which acts as a thick barrier to it) facilitates the afflux of arterial blood, diminishes the obstacle to venous escape and that without exposing the case to hæmorrhages from venous stasis or friable vessels. Bettremieux advises this operation as promptly as possible in blindness from hæmorrhage. He would try the operation even in case of pallor of the disc with dilated pupil immobile to light. In fact, several hours after the hæmorrhage it is not a true atrophy, but is a very pronounced anemia of the disc, and sight may return after several weeks of blindness. Even absence of the pupillary reaction is not always in this case an index of irremediable blindness.—*Echo Méd. du Nord*, abs. in *Rev. Gén. d'Opht.*, Janv.

Orthoform in Quinsy. Placed on the tongue 5 to 6½ grains of dry orthoform or anesthesin powder will relieve dysphagia in quinsy, according to Dr. Hinsberg. A few movements of deglutition, without previous admixture of saliva with the powder, will bring it in contact with affected parts. The measure is also useful after operation on tonsils.

Mumps and Pharyngitis. G. L. Petrilli (*Policlinico*) from experience in epidemics of mumps among Italian soldiers concludes that epidemic parotitis is always preceded by an epidemic pharyngitis, of which the parotitis is merely a complication. He readily effected prophylaxis on this theory. Pure tincture of iodine was applied to the pharynx and buccal mucous membrane as soon as a case of mumps appeared, and the patient required to keep a tablet of potassium chlorate constantly in the mouth. The applications of iodine are made every morning throughout the course of the disease, with special attention to the gingival fold and the opening of Steno's duct. With these pre-

cautions the patient is allowed to mix with his comrades in the barracks, though each of them, perhaps already in the incubation period at the time, is subjected to the same treatment for four successive mornings.
—*Critic and Guide*.

Cellophane is a new fabric, transparent and pliable—is a cellulosic xanthate of sodium—very tough, and looks like a sheet of transparent paper. It is insoluble in water, impermeable to greasy substances, unattackable by ethers, chloroform, alcohols and alkalies and is easily sterilizable by formalin, lysol, hydrogen dioxid, alcohol, boiling water or by steam which it will stand up to 150° C. In surgery it may be used for dressing—applied directly to a wound enabling its condition to be watched—as it is strong, supple, inalterable and cheap. It may also be used to wrap dressings, etc., sterilized at 145° C.

Biophane has the same qualities but is thicker; it is to cellophane what cardboard is to paper, and costs less, weight for weight.

[Rumor has it that a self-filling fountain pen will be made of biophane, transparent so that one may see how full or empty it is at any given time.]—*The Literary Digest*.

“Unless a man undertakes to do more than he possibly can do, he will never do all that he can do.”—Prof. Henry Drummond.

BOOK REVIEWS.

THE ELEMENTS OF BANDAGING AND THE TREATMENT OF FRACTURES AND DISLOCATIONS. By WILLIAM RANKIN, M. A., M. B., Ch. B., Dispensary Surgeon, Western Infirmary, Glasgow; Extra Honorary Assistant Surgeon, R. H. S. C., Glasgow. Semiflexible cloth, 116 pages, $7\frac{1}{4} \times 4\frac{1}{2} \times \frac{1}{2}$ ", with 68 original illustrations, \$1.50. London, Henry Frowde; Hodder & Stoughton; Oxford University Press, New York, 35 W. 32d Street. 1913.

This one of the Oxford Medical Manuals aims at terseness at the expense of incompleteness: *e. g.*, "Those who are interested in what can be done with triangular bandages for covering in almost any part of the body are referred to books on bandaging"—as if this were not a book on bandaging! This subject is dismissed with mere mention and pictures of the "sling, long sling and short sling." Under fracture of the skull no mention is made of "cracked pot" auscultation as an aid in diagnosis. Fracture of the nose is not mentioned. American students may be at a loss to understand what is meant by Gamgee tissue, but the book was not written particularly for them. The typography and illustrations are good, as is the paper, but as much can hardly be said for the binding. A good book so far as it goes.

DISTURBANCES OF THE VISUAL FUNCTIONS. By Prof. W. LOHMAN, Chief Physician, University Eye Clinic, Munich. Translated by ANGUS MACNAB, M. B., F. R. C. S., Eng., Ophthalmic Surgeon, King Edward VII Hospital, Windsor. Linen. 185 pages, $10 \times 6\frac{1}{4} \times \frac{1}{2}$ ", 34 text illustrations and 5 plates, some in colors, \$3.50, net. P. Blakiston's Son & Co. Philadelphia. 1914.

A very valuable and interesting monograph, which appeals to psychologists as well as to ophthalmologists. The 12 chapters are, respectively, upon: Vision, its organ and signification; Blindness, The education of vision; Disturbances in vision to the refractive condition of the eye, with Pathology of Entoptics; Abnormalities of central and peripheral vision; Disturbances of adaptation and of the light sense, The evidence for and against the duplicity theory; The sense of color and its congenital abnormalities; Acquired defects in the color sense; The chromatopsias; "Color-hearing" and other optical co-sensations; Binocular vision and its disturbances; Visual disturbances in diseases of the visual tracts and centers; Memory pictures, Associated and false optical perceptions. The double column index occupies four and a half pages.

Lohman heartily supports Gahlen in the opinion that perimetric ex-

amination is practically more valuable than the entoptic because "the accurate appreciation of entoptic sensations necessitates a considerable power of physiological observation." *Muscae volitantes* are due, in healthy eyes, to remains of embryonic cells, vitreous fibers, etc. They may be due to vitreous disease (exudations from diseased choroid, hæmorrhages, etc). They are common in myopia, sometimes explainable by the fact that in this eye, to a certain extent from its magnifying power, anything which casts a shadow produces a sensation. Physiological *muscæ* are transparent, the pathological ones are quite black. Blindness does not accentuate the senses of touch or of hearing, but greater attention is paid to them, particularly of touch, so that the blind do deduce more from their touch. Their sensation of place is because they pay greater attention to their hearing and touch. The so-called sixth sense, the "sense of place," is compounded of several stimuli, auditory impressions and tactile impulses from the face.

Nearly three pages are given to "vision acquired after operation; this must be counted incomplete because no mention, even, is made of Moreau's valuable and interesting case in the *Annales d'Oculistique*, Février, 1913:—This was an eight year old boy, who had been born blind, successfully operated for cataract and his sense of vision carefully developed: the proceedings are detailed with much minuteness.

Discussing visual acuity we read: "If a white and black card lying on a flat surface be brought together so that a rectangular part of one is superimposed on the other, the resulting change in contour is recognized when subtending an angle of but 11 seconds. But a greater angle, averaging 1 minute, is necessary for the appreciation of two points as discrete. If a row of 6 to 12 equidistant points be drawn, and observed at such a distance that the visual angle is 1 minute, they will certainly be recognized as discrete, but to count them the visual angle of the interspaces must be increased at least 4 to 6 times." Landolt's rings, as test letters for distant vision, are criticised: "the increased brightness of that half of the figure which is open may arrest the attention, even when there is no question of appreciating the minimum separabile." Otherwise they are commended.

The temptation is great to give more space to this scholarly presentation of this aspect of ophthalmology. But there is one point which cannot be passed over—the author's use of the term *hemeralopia*.

We maintain that "general usage" is not an adequate excuse for perpetuating an error; and this palpable misnomer thrusts itself continually upon every one cognizant of the significance of the syllable "al" in the terms *hemeralopia* and *nyctalopia*. Professor Lohman teaches that night blindness—impaired vision in poor light—is called *hemeralopia*, perpetuating the careless application of that term (or ignorant, one is as bad as the other for a teacher). The translator surely must be aware of this; he should have called attention to it in a footnote, for the sake of his own reputation.

If he will, Professor Lohman may exert a decided influence by adopting and urging the scholarly term, *nyctalopia*, for night blindness. Failing that, he might use the word *hemeropia* (or *hemeropsia*) for "day vision," and similarly *nyctopia* or *nyctopsia* for night vision. The Germans, with their reputation for accuracy and scholarship, should not be blind to this argument; we hope that—their attention being called to it—they will not ignore the syllable *al* and its derivation from *alaos*, blind in *hemeralopia* and *nyctalopia*.

DEVELOPMENT AND ANATOMY OF THE NASAL ACCESSORY SINUSES IN MAN. Based on 290 lateral nasal walls, showing the stages and types of development from the 60th day of fetal life to advanced maturity. By WARREN B. DAVIS, M. D., Corinna Borden Keen Research Fellow, Jefferson College, Philadelphia; Assistant Demonstrator of Anatomy, Daniel Baugh Institute of Anatomy. Cloth, octavo, 172 pages, 9¼x6¼x¾", 57 original illustrations. \$3.50, net. Philadelphia and London. W. B. Saunders Co. 1914.

Another valuable monograph; every rhinologist will want a copy. The author devised a method of removing the nasal accessory area post mortem without disfiguring the face, and gives the necessary instruction for doing this:—"The brain having been removed in the usual way, further detach the skin and subcutaneous structures from the frontal area to the level of the nasion. With the saw make in the sagittal direction cuts through the frontal bone just lateral to each supraorbital notch and extending through the supraorbital plates. Remove with bone-forceps the portion of supraorbital plates lying lateral to the sagittal cuts, thus obtaining room to detach the eyeballs posteriorly and turn them forward. Dissect the skin and muscles from the nasal, lacrimal and maxillary bones; then from the anterior end of the nasal bones out through the nasal septum and lateral cartilages to the anterior nasal spine of the maxilla. With a chisel cut through the basi-occipital bone, thence lateral to the body of the sphenoid extend the cuts to the sphenomaxillary fissure. With a saw or a costotome cut through the maxillary processes of the malar bones and remove the specimen en masse.

To reconstruct the face, fill the oral cavity and the space previously occupied by the specimen with cotton packed firmly to the level of the orbital floor. Turn the eyeballs back into place, and pass two sutures through the subcutaneous structures just posterior to the inner canthi and tighten them until the eyes are held the proper distance apart. Pack cotton anterior to these sutures to form a bridge for the nose, and by pressure and adjustment of cotton mold the nose into its original shape. Fill the remaining portion of the cranial cavity with cotton or oakum and make the interfrontal area smooth and firm by means of plaster-of-Paris. Replace the calvarium in the usual way.

In only one out of the 97 cases was the disfigurement sufficient to cause criticism or dissatisfaction among parents or other relatives; in that case it was necessary to replace the specimen."

The illustrations are admirable! The text is clear and concise and the publishers have done their part beautifully. The high glaze paper necessitates care to avoid glare while reading, but is required in order to do justice to the illustrations.

OPHTHALMIC SURGERY. By CHARLES H. BEARD, M. D., F. A. C. S.; Surgeon, Illinois Charitable Eye and Ear Infirmary; Oculist, Passavant Memorial Hospital, Chicago; Ex-President of the Chicago Ophthalmological Society. *2d edition, enlarged and revised.* Cloth, 745 pages, 9½x6x1½", 9 plates, showing 100 instruments, and 374 other illustrations. Philadelphia. P. Blakiston's Son & Co. 1914.

To those familiar with the first edition of this admirable work, we will say that the intervening four years have necessitated the addition of 33 per cent. more text and 80 more illustrations with two entirely new chapters—"The Newer Operations for Glaucoma" and "Surgical Treatment of Detachment of the Retina"—besides the introduction of important new matter throughout the volume which, notwithstanding, is of practically the same size. Among the additions will be noted: Toti's and Butler's operations upon the lacrimal canal (it is a pity no allusion is made to endonasal operations for chronic suppurative dacryocystitis); Rogman's and Wicherkiewicz's for epicanthus; Elschmig's and Motais' for tendon advancement (a serious injustice is done to purchasers of the book by failure to describe E. J. George's double forceps with a millimeter scale for accurate advancement, recession or tucking*); Angelucci's for ptosis; Verhoeff's and Green-Ewing's for entropion; Terson's for ectropion; Falchi's for central coloboma of the upper lid; Buedinger's restoration of the lower lid, using cartilage of the ear, and Meisner's restoration of the entire lid, using the whole thickness of the helix; the Schoebel-Kuhnt methods of conjunctivo-keratoplasty; the newer measures for keratoconus, and for corneal grafting; the improved technique for anterior synechiotomy; Elschmig's simple cataract extraction with peripheral incision of the iris; Homer Smith's preliminary capsulotomy; Hulen's vacuum extraction of the lens in its capsule; and the latest phase of the Indian cataract operation.

To those who do not possess the earlier edition it is sufficient to say that this volume fulfills the expectations of those who endorsed the author by calling for it. It is one of the most satisfactory of the works on this subject in our language; arrangement, typography, illustrations and binding supplement the author's lucid style.

*JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY AND LARYNGOLOGY, 1911, p. 294. The instrument is made by F. A. Hardy & Co., Chicago and New York.

We find 18 patterns for capsulotomy, but the authors of only nine of them are given. As would be expected, cataract is thoroughly treated. Our author considers that the incisions varying from $1/3$ up to $1/2$ of the circumference show no appreciable difference in their coaptation and healing *if placed in the vascular zone* with aseptic precautions. It is interesting to note the quotation of Knapp's recommendation of hypodermatic injections of hyoscin hydrobromate, gr. $1/100$ pro dosi, to control cataract postoperative mania—probably derived from homœopathy, but not homœopathic (only empiric) unless the patient exhibits hyosciamus symptoms.

The Journal of Ophthalmology, Otology and Laryngology

Vol. XX

Lancaster, Pa., and New York, June, 1914

No. 6

EDITORIAL.

OFFICIAL RECOGNITION OF HOMŒOPATHY.

We are all delighted, and agree with President Wilcox, that the recent action of the Board of Regents of the American College of Surgeons* is one of the greatest, if it is not the greatest of triumphs that homœopathy has ever attained. It is safe to assume that the College will ratify it and place the American Institute of Homœopathy on a par with the American Medical Association and the Clinical Congress of Surgeons of North America!

The A. M. A. is bound, sooner or later, to recognize homœopathy as a specialty in therapeutics just as legitimate as surgery, gynæcology, ophthalmology, etc.

One accomplished in homœopathic medical therapeutics has as much right to call himself a homœopathist as one accomplished in ophthalmic therapeutics has to call himself an ophthalmologist. As Dr. Krauss put it—the fact that a man is a surgeon does not deprive him of the right to use medicinal methods, so the fact that a man is a homœopathic practitioner does not deprive him of the right to use other medical methods or surgical methods when homœopathic treatment is not indicated.

The general recognition of this, supplemented by the realization that individual homœopaths are gentlemen and scholars, are skillful diagnosticians, surgeons, ophthalmologists, etc., and that there are homœopathic medical colleges which rank with the best of their own—these considerations are bound to overcome the prejudice of the, let us call it, conservative element of the A. M. A. which, there are indications, will ere long lose control of that association.

*See page 274.

CURING WITH POTENTIZED ANTITOXIN.

ON another page is a report of diphtheria treated with antitoxin 30th; a well reported case, for the diagnosis is established, the adjuvant treatment noted and the promptness of the relief is given. It would be easier to credit this remedy if the throat had not been painted with the powerful germicide, $\frac{1}{2}$ per cent. solution of mercuric potassium iodide. We infer it was diphtheria antitoxin.

Improvement followed the antitoxin 30 (and the germicidal application) as it commonly follows injections of large doses of antitoxin, and "the first dose of the 30th seemed to help" an attack, a week after dismissal, of vertigo, nausea and nystagmus.

Can so small a dose of antitoxin act in the same way as the customary doses do?

Was this a homœopathic cure? If perfectly homœopathic to the condition the secondary attack should not have occurred.

Some years ago the senior editor conducted a proving of Behring's diphtheria antitoxin: a number of provers after a week of observation took, without knowing what, a potentization (3 or 6 centesimal?) then progressively lower preparations to the crude (but not hypodermically). A few symptoms were evolved but they were all found in the pathogenesis of carbolic acid, and carbolic acid was incorporated in the antitoxin as a preservative. All concerned or consulted agreed that one need not expect an antitoxin to develop symptoms, either toxic or pathogenetic. We are not aware of any other proving of diphtheria antitoxin.

This warrants skepticism of the cure claimed in the paper under discussion. The patient grew worse until the morning of the fourth day, but in the next twelve hours changed "remarkably" for the better and improvement progressed steadily, a small membranous cast being coughed up on the eighth day. The patient had received *mercurius solubilis* 30 on the evening of the third day and, presumably, through the night; antitoxin 30 was given the next morning and continued, we may infer, for about two or three weeks. It is regrettable that we are not informed whether the double iodide of mercury and potassium was applied only once, or for how long a time and how frequently.

We are not aware of any other case of diphtheria claimed to have been cured with antitoxin 30; such a case, when one occurs, it is hoped will not have had any other treatment that could possibly be considered curative and will be so reported as to satisfy the reader that the cure can logically be attributed to the remedy. In the present case such a conclusion is not forced from the reader.

VAPOR ANESTHESIA IN SURGERY OF THE HEAD AND NECK.

W. D. ROWLAND, M. D.,

Assistant in Ophthalmology and Oto-Laryngology, Homœopathic Medical College, University of Michigan.

IN recent years much thought has been given to the subject of anesthesia. Devices are employed to administer gas and oxygen with the addition of ether when necessary. Intratracheal insufflation marks a great advance in safer anesthesia in general surgery. With few exceptions however these devices, or even ether and chloroform administration by the open methods, are impractical in surgery of the eye, ear, nose and throat. There are two chief reasons for this assertion: namely, interference to the operator by the anesthetist, and danger of rendering the field unsterile by apparatus or by secretions from the nose or mouth of the patient.

In large hospitals or in private practice where professional anesthetists are available these objections may be overcome in part, but many surgeons are continually handicapped by unsatisfactory anesthesia even in tonsil work, for often it is the untrained who is called upon to do that important part of the surgical procedure. My point is, that anesthesia in this branch of surgery calls for more skill than in general surgery.

These facts led me to devise some method of anesthesia whereby these difficulties might be obviated, or at least reduced, and one that would be safe in the hands of the tyro when his services are to be accepted. The most adaptable anesthetic then must be some kind of vapor sufficient to produce surgical anesthesia by a semiopen method, and in a manner not to interfere with the operator yet at the same time preserve more perfect asepsis. Ether, and when necessary chloroform, vaporized will satisfy all these conditions.

The apparatus in illustration No. 1 is a simple device consisting of two four ounce containers, one for ether and the other for water, with a handbulb and air reservoir of 150 cc. capacity each by which air is forced through a tube into the ether. The vapor thus formed is then carried through the water which prevents concentrated ether or chloro-



FIG. 1



FIG. 2

form from irritating the patient's skin or mucous membrane. The washed vapor is conducted to the patient through a like tube ending in a metal mouth piece. These parts are suspended in two pockets of an apron, eight by ten inches in dimension, which is attached to the anesthetist by tapes about the neck and around the body.

Illustration No. 2 shows its use in tonsil work. The patient is first anesthetized in the ordinary way with gas or ether, and when ready



FIG. 3

to operate the apparatus is attached as illustrated. A hooked mouth piece introduced under the mouth gag and out of the way of the operator delivers the ether vapor where it is inhaled best by the patient. The anesthetist also supports and directs the patient's head to the operator's need. This insures continuous anesthesia keeping the patient under control while the surgeon is given all the time necessary to do a safe operation under good inspection, and to reduce all hæmorrhage.

Illustration No. 3 shows its use in cleft palate repair. Here two mouth hooks are used on rubber tubes of sufficient length that when connected by a "Y" over the occiput, the lips are retracted laterally thereby enlarging the orifice and permitting less interference by the anesthetist.

Illustration No. 4 shows a straight metal end piece held by the fingers to the nose of the patient and the jaw supported by the same hand, in which form vapor is delivered under towels which cover the

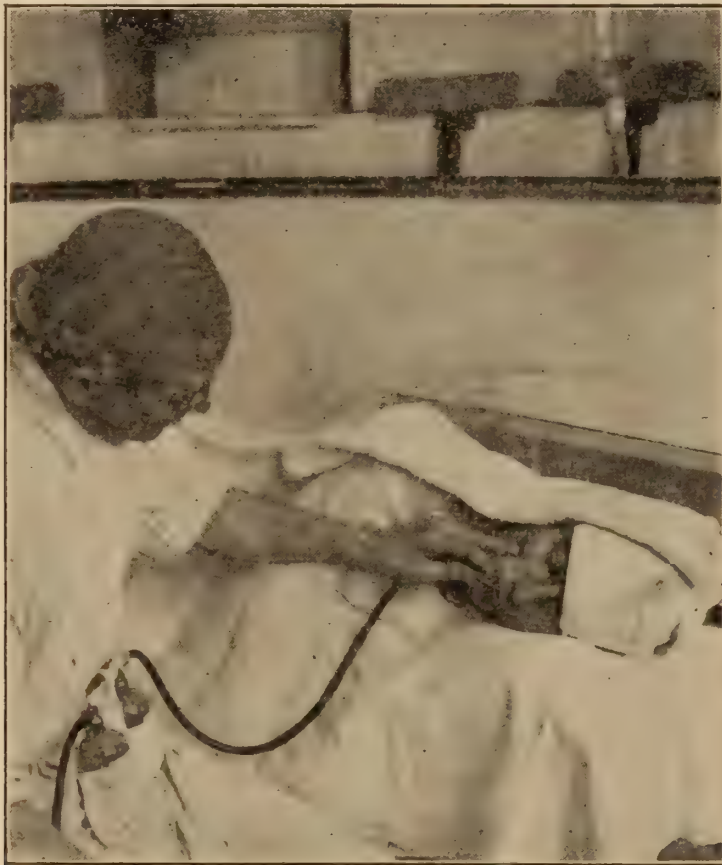


FIG. 4

face as shown in No. 5. With ether one towel should be wet to prevent too rapid evaporation, chloroform does not require this. Air is delivered to or excluded from the patient by raising or lowering the arm of the anesthetist about which the towels are closely placed. These illustrations show the form of mastoidectomy, in which the anesthetist gives no interference to the surgeon or his assistants.

Illustration No. 6 shows the form for eye or frontal sinus surgery. It has the advantages mentioned under Nos. 4 and 5, but in addition prevents secretions from the mouth and nose infecting the operative field.

Illustration No. 7 shows the form for thyroidectomy. Here the same hooks are introduced into the nares whereby anesthesia is sufficient, and with a towel about the patient's chin infective secretions as above mentioned are controlled.



FIG. 5

These illustrations serve to show how ether or chloroform vapors may be used in the more common operations upon the head. The apparatus may be used also in brain surgery, carotid ligation, cervical adenectomies, etc.

There are three standard vaporizing devices on the surgical market now: Fillebrown's Ether and Chloroform Inhaler, Caine-McDermott Warm Ether Apparatus, and the Gwathmey Three Bottle Vapor Inhaler. All these are more or less complex and call for special training in order that they may be used with safety. The apparatus herein described has the following advantages:

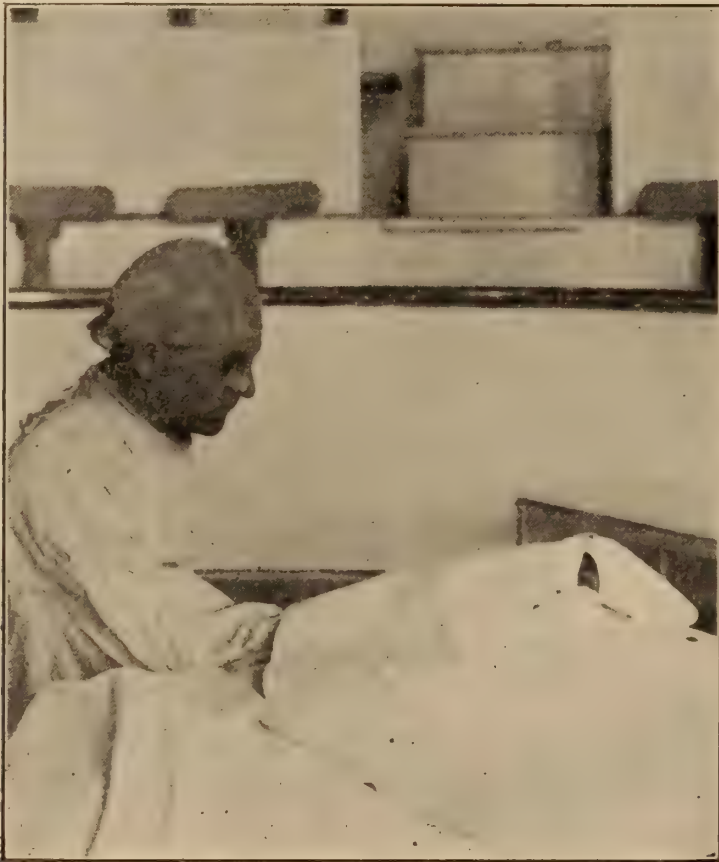


FIG. 6

First, it is simple and can be used with safety by anyone capable of administering ether or chloroform by the open method.

Second, it is compact, thereby occupying minimum space in the surgical setting, and can be transported conveniently.

Third, it permits complete sterilization readily and, having no parts on the floor, the sterile condition is more easily maintained.

Fourth, it is inexpensive and may be constructed by harnessing ordinary atomizers in proper mechanical arrangement.



FIG. 7

This simple apparatus has proven very valuable in our work in the university clinics and is one that I believe contains enough virtue to warrant offering it to the profession.

317 S. State St., Ann Arbor.

A CASE OF DIPHTHERIA TREATED WITH POTENTIZED ANTITOXIN.

DOUGLAS MACFARLAN, M. D.,

Philadelphia, Penn.

IT seems scarcely worth while to mention one or two cases of any disease and conjure up conclusions as to the results of treatment. Already we have in our older books an almost worthless conglomeration and confusion of indications, developed from the careful recording of all symptoms both casual and important in single cases. Not that minute observation is to be criticised—main facts and features in any given condition must not be concealed by a mass of unimportant drift wood.

However, in the case here presented facts seem so obvious and remarkable that it may be pardonable if we present it simply on its own merit and without more conclusive support.

Miss A., age 38, sent for me complaining of a very bad sore throat which she had had for three days and which she thought she had caught from scrubbing the floor and getting wet. When I saw her the soreness had become rapidly worse and swallowing gave her great pain. She was feverish and restless, exhibited a variety of grippy symptoms, malaise, severe pains, aches and soreness all over. A hurried examination showed an active inflammation of the pharynx; the fauces were swollen and injected and there was a membrane on the post-pharyngeal wall. Later in the day a more thorough examination was made and a swab taken, two streaks of typical pseudomembrane were seen to be firmly incorporated with the lateral walls of the pharynx and were impossible to strip off with firm swabbing. The fauces and tonsils were acutely congested but showed no membrane. The throat was extremely sensitive to instrumentation, on which account no satisfactory postnasal or laryngeal examination could be made. The neck was very tender to the touch but there was no glandular enlargement, examination of the nares showed them uninvolved.

Her temperature at this time was 102° and all the symptoms seemed progressing unfavorably. A severe headache came on, the pain of which was not localized but general and its severity seemed from the

actions of the patient unbearable. *Mercurius solubilis Hahnemanni* 30th was given, this was the evening of the third day of her illness.

The next morning there was no improvement in her symptoms but rather the opposite. Severe headache and vomiting suggested meningeal complications, fever continued high. Now and then the patient complained of choking sensation in the throat. The culture was positive. The throat was gently painted with 0.5 per cent. mercuric potassium iodide* solution and internally "antitoxin 30th" was given.

The change in twelve hours was remarkable, her subjective symptoms were rapidly subsiding, the temperature had dropped, headache was gone and her throat troubled her less; she was extremely exhausted, however. On examining the throat there appeared no change, the membrane was no more extensive and the inflammation seemed the same. The antitoxin was kept up and the improvement continued.

By twenty-four hours her symptoms cleared up, the inflammation in the throat was rapidly subsiding but it was several days before the membranes began to separate off. On the eighth day a small membranous cast of the trachea was coughed up. A smear taken at this time showed beautifully the degeneration forms of the bacillus.

Things went along nicely until one week after I had dismissed her from treatment, this was three weeks after her illness began. She then began to show marked evidence of loss of equilibrium, dizziness, giddiness, swimming in the head, "cannot tell where she is," seasick feeling; Rhomberg's sign was positive and there was well marked nystagmus. The latter was apparently uniform in both directions and of equal amount, the caloric test did not serve to bring out a difference. There was slight pain in one spot behind the right ear, but no distinct earache or mastoid pain or tenderness. The drums were normal. She herself gave the symptom of pain in the right mastoid region, unsolicited, but said it was of no moment to her. There was no deafness nor other ear symptoms, and at this time the throat was practically normal. China 30th for one week had no effect, and thinking that the trouble had some possible connection with the previous throat trouble "antitoxin 30th" was again given. It produced immediate and marked change with the clearing up of the symptoms. "The first dose seemed to help." There has been no further trouble with the case.

* K_2HgI_4 germicidal in 1:80,000 solution. See this JOURNAL, Oct., 1913, p. 411.—EDITOR.

Until "antitoxin 30th" was given the progress of the case seemed so unfavorable that there is little hesitancy in accrediting to this remedy the results so rapidly obtained. I have often seen such results come after the use of antitoxin crude, especially when a sufficient number of units were used, but none more satisfactory or convincing than in this case. The use of this remedy has been frequently confirmed in the croupy sore throats of children, and in this field alone recommends itself for a place in our armamentarium. No doubt many of our older practitioners have had such good results with this remedy as with the other nosodes, but I merely pass the case on as one which has been at least very convincing to me.

NOTE.—The antitoxin was "run up" from a preparation I obtained from the New York City Health laboratory when I was working there. It is in 0.5 per cent. tricresol. I observed no phenol provings.

1805 Chestnut Street.

Labyrinth tonus is the result of impulses constantly emanating from the hair cells on both sides of each crista; these are probably the intralabyrinth pulsations associated with each beat of the heart. The tonus from a labyrinth, if unchecked by corresponding impulses from the opposite labyrinth, will produce nystagmus toward the same side.

Tonus impulses to the voluntary muscles have two sources: from the labyrinth, and from extralabyrinth afferent impulses. Sudden destruction of a labyrinth destroys permanently the labyrinth tonus from this side, and at the same time apparently suppresses temporarily much of the extralabyrinth tonus to the same muscles. In recovery compensatory tonus (extralabyrinth) rapidly develops.—Chicago Lar. and Oto. Soc., *Jour. of Oph. and Oto-Lar.*, Sept.

Snaring Adenoids Through the Nose. Derrick T. Vail, where there is bowing of the cartilaginous septum and some restriction of breathing on one side or asthma, saws off the bony ridge and spur, sacrificing mucous membrane and always does what he calls "posterior inferior turbinectomy," sawing off the entire posterior part of the inferior turbinate to which, in these cases, there is always mulberry-like hypertrophy.

At the same time he snares off through the nose the adenoid mass that usually exists in a vertical mass down the sides of the pharyngeal wall like an exaggerated fold. He passes the wire snare till the end of the canula impinges upon the basilar process of the occipital bone, the wire loop descending on the posterior wall of the pharynx, and then, engaging the mass in the loop, it is snared off by drawing the wire slowly home. He "has not seen this method described by any rhinologist."—Chicago Lar. and Oto. Soc., *Jour. of Oph. and Oto-Lar.*, Jan., 1914.

COLORED SPECTACLES AND ELECTRIC LIGHT GLOBE.

FRANK F. CASSEDAY, PH. B., M. D.,

Portland, Oregon.

THIS paper is merely a few practical suggestions on some uses of colored lenses for spectacles for constant use as a means of relieving some of the irritating effects of the glare of sunlight as well as the irritating effects of artificial light, notably the electric light.

Sir William Crookes in a paper before the Royal Society* on "Eye-Preserving Glass for Spectacles," calls attention to the work he has done since March, 1909, in connection with the Glass Makers' Cataract Committee in experimenting on the effects of adding various oxides (metallic) to the constituents of glass in order to cut off the invisible rays of the infrared end of the spectrum, thus preparing a glass which will cut off these rays from highly heated molten glass which damages the eyes of workmen, without obscuring too much light or materially affecting the colors of objects seen through the glass when fashioned into spectacles.

Single metals were first tried and the glass was tested for heat cut off, to ascertain the upper limit of transmission of ultraviolet rays, next to test amount of luminous rays transmitted, and finally the color was registered.

The following elements have been selected as probably worthy of further experimentation by Sir William Crookes: cerium, chromium, cobalt, copper, iron, lead, manganese, neodymium, nickel, praseodymium and uranium. The problem has been attacked from the ultraviolet and transparency point of view. So far as transparency is concerned it will not be an unmixed advantage for the sought-for glass to be quite clear and colorless. The glare of a strong light on white cliffs, expanses of snow, electric light, etc., is known to be injurious to the eye, and therefore a tinted glass combining good observation with opacity to the heat radiation and ultraviolet rays is the best to aim at. For ordinary use when no special protection against

*Abstracted in *Nature*.

heat radiation is needed, the choice will depend on whether the ultra-violet or the luminous rays are most to be suppressed, or whether the two together are to be toned down. Many glasses have been prepared for this purpose. The colors are pale green, yellow and neutral, they transmit light in ample quantity so that a choice of tints is available to suit individual tastes.

Glasses which are restful to the eyes in the glare of sun on chalk cliffs, expanses of snow or reflected from the sea have been prepared of yellow, green and neutral tints, which have the advantage of cutting off practically all the ultraviolet rays and also a considerable amount of the heat radiation.

For the above summary I am indebted to the *Scientific American* supplement, December 27, 1913. I have quoted from it largely for the reason that I believe the necessity for research work along these lines is very imperative for the welfare of the human eye in view of the constantly increasing candle power, illumination and heat radiation of modern electric lights. Only recently a new arc light has been put on the market and the glare from it is so terrific that it is impossible to gaze at it. The cold electric light is not yet in sight. It may be that in time our inventors will emulate and equal the firefly in illumination and without heat radiation.

We have all used the various colored glasses (plano) for cutting off the glare, but the careful use of ground colored lenses for correcting errors of refraction in colors is still in its infancy.

While my personal experience has been limited, yet it has been very gratifying to me and satisfying to the patients who have tried the lenses.

There are a large number of cases of which might be included under the term asthenopia. Many such go through the hands of various tinkering opticians and finally reach the oculist for treatment and correction of the errors of refraction if any exist. Many such suffer from irritation of the eyes—sandy, tire easily, light hurts the eyes, more or less conjunctivitis, both ocular and palpebral—and correction of the error with clear white lenses does no good.

In two cases a year ago all the symptoms pointed to accommodative trouble with great sensitiveness to light and other symptoms enumerated above. Both had been fitted by opticians with white lenses—one patient having lenses changed four times in one month by the optician without relief. Conditions were growing worse when they fell into my

hands. I treated both with various collyria and internal remedies like natrum muriaticum, gelsemium, bryonia and other remedies without results, but when I fitted each with orange tinted lenses ground for correction of their errors of refraction for constant use all their eye troubles ceased and have never returned. They speak of the great comfort they have derived and have no eye troubles whatever. The lenses I use are preferably of German glass, but just what metals have entered into its composition I am of course unable to say.

I have also fitted my wife (who is a physician) with orange tinted lenses corrected for distance, and she derives great comfort from their use. Green and amber tints may be helpful, but all the plano lenses I have prescribed in amber have made the eyes more sensitive to light and are objectionable on account of their deep color. Green would be useful for intense furnace glare, arc light or smelter work but I would not prescribe them at all for ground lenses to correct errors of refraction, owing to their appearance and the fact that any color except green could not be recognized. The orange tint seems to contain just about the right amount of metals to tone down heat radiation, glare, and cut out ultraviolet and infrared rays. It is very likely that under different sun conditions and climatic conditions other colored glass would be preferable. However the various yellow and orange shades seem to be considered most useful in India and other subtropical countries for head coverings to cut out radiation, so I would conclude that these tints would be more generally useful than any other combination.

With the great increase in light illumination power of individual electric lamps I can see no reason why the glass of the lamps should not be made of the orange, yellow or neutral tinted glass. This would cut out the intense radiation and tone down the infrared and ultraviolet rays at the source. There is I believe a gas globe on the market with a yellow or neutral color for this purpose. This is certainly a serious problem, and demands attention.

516 Dekum Building.

Boil the catgut tube, don't soak it. because they usually float and the person who removes it from the antiseptic solution either contaminates it, or may through it contaminate the sterile covering of the instrument table or the instruments or her hand. Wrap the tubes with gauze or towel and boil them 20 or 30 minutes with the instruments, thus avoiding the above possibilities.

TUBERCULOSIS OF THE CHOROID.*

WM. M. HILLEGAS, M. D.,

Philadelphia, Penn.

TUBERCULOSIS of the deeper structures of the eye is practically always endogenous in origin, and is caused by contamination through the blood supply from some focus in the body, either by toxins or bacilli; rarely it follows traumatism. It is more common in children than in adults, and a family history of tuberculosis is a predisposing cause as a want of resisting power to that specific organism.

If one eye is affected by tuberculosis the other eye is likely to be affected later, not by sympathetic involvement but because, according to the findings in studying infection, an organism growing in a certain tissue, if it gains access to the blood stream, is more likely to set up a fresh focus of inflammation in a similar tissue than otherwise.

The most frequent causes of choroiditis are: syphilis, acquired or congenital; tuberculosis; diseases of the accessory sinuses of the nasopharynx; and some nutritional diseases, such as anemia or chlorosis; but it is difficult to be sure of the cause in any case.

There is a distinction between tubercular choroiditis and tuberculosis of the choroid—the former being probably due to toxins, and the latter to bacillary invasion. Tubercular choroiditis is a diffuse inflammation, generally a chorioretinitis, and the tubercles are invisible with the ophthalmoscope. But as soon as the bacilli enter the circulation of the choroid the nodules begin to develop. These nodules or tubercles may appear as scattered miliary nodules or there may be several tubercles, from 1 to 2.5 mm. in diameter, which attain their size rather rapidly and the borders of which are seldom pigmented, in distinction to the spots in the beginning of ordinary disseminated choroiditis. In slow lingering general tuberculosis these tubercles are nearly always visible before death, and in general miliary tuberculosis there is usually a marked condition of this kind before the end.

This type is fairly benign, both as to fatal issue or destructive process or to vision, but there is always the possibility of the development

*Read before the Philadelphia Society for Clinical Research.

of a tubercular granuloma, or tuberculoma, which may extend outward through the sclerotic or inward, causing detachment of the retina, in either case demanding enucleation.

Chronic tuberculosis of the choroid develops more slowly, and is marked by a diffuse yellowish white discoloration of the choroid, within which are round elevated yellowish spots which undergo atrophy and are usually associated with hæmorrhages. The resulting degenerative spots in the choroid appear the same as in other chronic choroidal inflammations, atrophic white spots with black pigment heaping at their edges. The distribution of these spots in tubercular choroiditis is usually equatorial, from the equator toward the posterior pole. The bacilli seem to get caught or lodge where the anastomoses of the vessels are thickest.

Extension to other ocular tissues is due to direct invasion of the toxins. Plastic iridocyclitis is frequent and episcleritis also is not uncommon. The membrane of Bruch offers considerable resistance to the passage of exudates and microorganisms, and as long as it is intact the retina is not involved nor is there any vitreous opacity, and the latter is never marked, but in long lasting cases this membrane eventually weakens. Neuroretinitis and papillitis result in some cases.

The prognosis is not grave unless it is the end result of a general tuberculosis, and then the prognosis has been given before the oculist sees the patient. Nor is the destruction of vision always extensive, unless the macular region is especially affected by the degenerative lesions or unless there are many complications from toxic extension.

Enucleation of the affected eye is useless, unless there is a large tuberculoma, and then it is imperative.

The treatment is hygienic, alterative, eliminative and antitubercular. It is unnecessary to go into the general treatment of tuberculosis. The use of tuberculin is probably the very best thing for these cases; elimination by steam baths and absorption by the use of subconjunctival injections of mercury or normal salt solution.

In October, 1907, a boy twelve years of age was referred to me with the following history: Cervical adenitis, supposed to be tubercular, on the right side, which was operated upon. Since then, and before then a healthy child. Father is highly neurotic, with a history of stomach ulcers. Mother has an amblyopia of the right eye, of unknown origin, said to be from some inflammatory condition in childhood; but there was only a small central corneal scar visible and the fundus is clear. Brother and sister well. No syphilitic history obtainable.

O. d., vision normal.

O. s., vision = $5/200$; the loss of vision coming rather suddenly with some pain about two weeks previous to my examination. Ophthalmoscopic examination disclosed a typical disseminated choroiditis with atrophy and pigmentation already marked. He did not know whether he could see equally well with both eyes before the trouble. These lesions were worse in the macular region, unfortunately, although there were a lot of them spread over the choroid. Potassium iodide was used, but the dose was not pushed. Subconjunctival injections of cyanide of mercury, 1 to 1,500, from 3 to 7 drops were given every third day at first, later once a week, and the vision began to improve immediately so that in two months he could read No. 8 Jaeger at 16 inches; a year later his vision was normal except that there were some scotomata, due to the atrophic spots.

Prescription was made of a mild myopic correction, ground in English violet lenses.

From his parents and his family physician, I understand that his general health has been good since then. He is large for his age and is strong, intelligent and ambitious and has a good position.

In December, 1912, he began to notice black specks before both eyes, followed by partial loss of sight in the right eye, the one unaffected at first.

O. d., vision = $1/200$, poorly.

O. s., vision = $15/10$, fair.

Marked choroidal inflammation was found in the right eye with gradual degeneration and atrophy, in fact true disseminated choroiditis and again, as before, especially worse in the macular region. The vigorous use of cyanide of mercury subconjunctivally administered was begun at once and the doses increased until pain and swelling in the conjunctiva were marked, but with no result.

Iodide of potassium was given in increasing doses with no result. Wassermann test negative, tried twice at a three months' interval. Von Pirquet test was negative. Subcutaneous injection of tuberculin 0.0001 g. gave some systemic reaction but no local aggravation. The nasal passages and accessory sinuses were thoroughly examined and a submucous resection of the nasal septum was performed with no improvement, nor did electric cabinet baths help. The latter part of February a low grade of uveitis, iritis and episcleritis developed in the right eye. After a thorough chest examination by an internist, which was negative, the patient was given a course of tuberculin beginning

with 0.00001 g. O. T., four doses, then gradually increasing the dose, giving the injection twice a week, then once a week for four months, the last dose being 0.001 g.

Early in April the vision in the *left* eye began to fail, from some iritic inflammation and episcleritis with vitreous infiltration, but at no time were there any new spots of degeneration in the choroid. The vision went back to 15/100, and iodide of arsenic 1/100 gr. in fresh capsules was given; the vitreous gradually cleared up, disclosing a papillitis. Potassium iodide was then given again, in doses up to 240 grs. daily. Note the multiplicity of tissues affected.

There has been a gradual improvement in the left eye, the one first affected seven years ago, and the vision is 15/30 fair; he can read fairly well with it. The right eye has not improved at all—v. = 15/200 —.

The marked improvement and rather wonderful clearing up of the vision, the lesions of course remaining, in the first attack in 1907, was so gratifying that the boy was not held under later observation, but it is doubtful whether the fresh attack could have been prevented, as choroiditis is a disease marked by recidivations. Removal of the eye first attacked, as advised at one eye clinic, would have been a grave mistake, because even if tubercular, as they thought, that would not have been removing the focus of infection, only the result of it, and this is his best eye now.

The improvement in 1907 under cyanide of mercury, while suggestive of syphilis, must rather be laid to its lymphagocic action, as the two negative Wassermann tests in 1912 absolutely discount syphilis as a cause in this case.

It is doubtful whether this is a case of tuberculosis of the choroid, notwithstanding the improvement while under the tuberculin treatment, which was probably coincident, he was taking alterative treatment at the same time.

The reasons for doubting the tubercular origin of this case are: the general appearance and good health of the patient; there was no ocular reaction from the tuberculin, even from the large diagnostic dose; the multiplicity of tissues affected; there were no tubercles at any time in the choroid; and I had the opportunity in this last attack to watch the case frequently, daily for a long while; the early macular involvement from the start is against the tubercular diagnosis, as the distributions of the lesions is typical of a disseminated choroiditis, equatorial and central at once.

1807 Chestnut Street.

HOMŒOPATHIC MATERIA MEDICA AND THERAPEUTICS.

USUALLY INDICATED REMEDIES IN DISEASES OF THE NOSE.

Aconite. Mental attitude of fear and anxiety. Useful in spring colds from exposure to wind. P. thirsty and feverish. Membranes dry and hot.

Arnica. Following operations when characteristic *bruised feeling* is present. In pus cases, to prevent spread of infection.

Arum triphyllum. Acute inflammatory condition, characterized by rawness and soreness of nostrils and watery coryza, which excoriates.

Allium cepa. Nasal secretion acrid. Ocular secretion bland. (Euphrasia the reverse.)

Arsenicum album. Copious watery coryza, which excoriates nostrils. Sensation of heat and burning in nasal passages.

Continuous or repeated "colds."

In hay fever associated with asthma.

Arsenicum iodatum. Subacute stage of catarrhal inflammation. Secretion thick and yellow. Tendency to hypertrophy of turbinates and tonsils. Glandular enlargement. Prostration, debility and loss of flesh (iodine). Vitality low and cannot seem to throw off a cold.

Belladonna. Acute cold with much disturbance of circulation. Dryness and heat in nose and throat. Throbbing headache. Secretion scanty at first, later, more profuse, watery and acrid.

Following operations on the nose.

Bryonia. In bilious type of cold with furred tongue, sluggish liver, dull frontal headache. Rhinitis associated with la grippe.

Calcarea iodata, Flabby children, subject to colds. Perspire easily. Glands of neck frequently involved. Secretions inclined to be profuse and yellow.

Camphor. Acute sinusitis, dull pressure over eyes and at root of nose. Sneezing copious, watery coryza.

First stage of acute rhinitis, chilly sensations.

Ferrum phosphoricum. Anemic children who suffer from perspiration or frequent attacks of rhinitis. Mucous membrane dry, red and hot.

Feverish.

Gelsemium. Dryness in nasal fossæ. Swelling of turbinates and general turgescence of mucosa.

Dull headache, particularly in occipital region.

Acute sinusitis, especially when sphenoid sinus is affected. Hay fever symptoms. Languor and drowsiness.

Hydrastis. Burning in nose. Frontal headache, constipation, coated tongue.

Hepar 3x. In purulent affection of the accessory sinuses with characteristic sensitiveness of *cold*.

In chronic cases with thick, yellow, purulent discharge or greenish-yellow crusts.

Hypericum. After operations on intranasal structures where traumatism is severe and there is a good deal of pain and other evidence of injury to nerves.

Ignatia 6. Severe circumscribed neuralgic pain in temporal or frontal region, associated with inflammation of the frontal sinus.

Occasionally indicated and has been verified clinically many times.

Kali bichromicum. Tough, stringy secretion. Dull frontal headache. Chronic sinusitis with dryness and crust formation. Septal ulcers.

Kali iodatum. Syphilitic ulceration and gumma.

Greenish yellow, excoriative discharge. Glandular enlargement.

In persistent attacks of rhinitis that tend to become chronic.

Pulsatilla. The pulsatilla subject with acute rhinitis in which secretion is profuse and yellow.

Aggravated by warmth and indoors. Relieved in the open air. (Hepar the reverse.)

Sanguinaria nitricum. Enlarged turbinates at beginning of hypertrophic process. Secretion scanty, tendency to dryness. Small scales and crusts, which bleed when removed.

Postnasal secretions adherent to nasopharynx and are dislodged with difficulty.—IRVING TOWNSEND, M. D., *The Chironian*.

Taking the Case.—There is no procedure in homœopathic practice more important than a thorough knowledge of the right way to take a case. The art of individualization is the keystone in the homœopathic therapeutic arch. Too often remedies are selected in a more or less haphazard way, empirically, upon a pathological basis or because certain remedies have a reputation for usefulness in other similar pathological states.

Such methods lead to a low percentage of curative results and an increasingly weakening faith in the principles of homœopathy. No physician can know too much about his patient. A knowledge of the case involves the employment of any or all the established and reliable methods of physical, chemical, pathological and bacteriological diagnosis. If he himself is not equipped to use all of these measures, his numerous colleagues, expert in their several fields, are at his command. Once determined, the next question to be considered is the applicability or nonapplicability of homœopathy. Perhaps the case is entirely surgical in nature, maybe mechanical treatment of one or another kind is alone required, possibly the removal of causative factors is demanded, or again the application of hygienic measures. Under any of these circumstances homœopathic remedies may be given in a supplemental manner, to round out the treatment, as it were, but their administra-

tion is secondary in importance, although requiring skill in their selection. Surgeon and prescriber should co-operate; it is just as rare for the former to be an expert materia medicist as it is for the latter to be a really competent operator.

But where the case is one purely medical in nature and where pathologic changes have not advanced far enough to preclude the possibility of cure, an entirely different technique from that employed in the making of the diagnosis will be required. Here it is well to forget, while searching for the remedy, the diagnosis. The pathognomonic symptoms must be entirely ignored if success with the remedy is to be attained. Upon those symptoms only is to be placed the greatest importance which most typify the patient himself.

Aurum, for example, even though apparently indicated by some of its lesser symptoms, will do no good if given to the habitually light-hearted and gay patient. Nor will psorinum benefit the patient to whom even the slightest heat is intolerable. Therefore, patients and remedies must correspond in their essential characteristic. Of these, mental symptoms are of paramount importance, likewise the strong desires and aversions, such as the marked preference for sweets, of *argentum nitricum* and of *lycopodium*. The modalities or aggravations and ameliorations, when expressed of the patient as a whole, are always to be sought and largely considered. Thus the causticum patient, while sensitive to cold and cold drinks, is better in rainy weather. Iodine loves cold air and feels better in it, and, although a ravenous eater, is painfully thin. In the female the menstrual condition, when characteristic, is of much aid in the hunt for the similimum. Likewise the time of general aggravation will be important. One who is always worse in the evening may need *pulsatilla*, but is not likely to require *nux vomica* or *natrum muriaticum*.

A common symptom when undefined, such as simple nausea, is of no value for prescribing. Almost any drug will produce nausea; but nausea aggravated by the odor of cooking or food has much more value, because it is peculiar and characteristic of a few remedies only, such as *arsenicum*, *cocculus*, *colchicum*, *digitalis*, *ippecac*, *sepia* and possibly *thuja*. So with thirst during fever, unless there is anything peculiar about it it may be ignored; but no thirst during fever is a symptom of great value because uncommon, decidedly peculiar, hence characteristic as a symptom of some drug, and but a few remedies possess this symptom, more especially *apis*, *pulsatilla* and *gelsemium*.—
R. F. RABE, *The Chironian*.

CURRENT LITERATURE.

DEPARTMENT EDITORS.

WM. McLEAN, M. D.,
New York.

FRANK O. NAGLE M. D.,
Philadelphia.

ANNALES DES MALADIES DE L'OREILLE, DU LARYNX, DU NEZ ET DU PHARYNX, Fevrier.

*1. L'application de l'anesthésie locale à la laryngectomie pratiquée suivant le procédé du Gluck. A. C. Tapia.

*2. Traitement chirurgical des sténoses fonctionnelles du larynx avec cornage. Sargon et Toubert.

3. La tuberculose de l'oreille moyenne. Lautmann.

1. Local anesthesia for the Gluck laryngectomy. The essential point is to expose the superior laryngeal nerves and inject them under direct observation when ligating the superior laryngeal arteries preliminary to subhyoidian pharyngotomy (the route adopted by Gluck to approach the larynx and separate it above and below from the hypopharynx and esophagus). Tapia uses adrenalted novocain in and under the skin, 10 per cent. cocain into the nerve trunks and, when necessary, a few drops of the same to the interior of the larynx or at the seat of pain. The nerves are anesthetized before cutting them in order to avoid reflexes (such as laryngeal spasm) and shock. A hypodermic of chlorhydrate of morphin is also given ten minutes before operating. Our author has made ten total laryngectomies with the method detailed with results leaving nothing to be desired; he is determined to adhere to local anesthesia for this procedure unless refused by the patient, etc.

*2. Surgical treatment of functional stenosis of the larynx with wheezy breathing. This is a study more particularly of stenosis due to paralysis (of the dilators of the glottis) or to stenosis resulting from cricoarytenoidian arthritis immobilizing the arytenoids near the median line. The proposed, new, operation consists in laryngectomy with submucous resection of the two arytenoids and curettage of the two ventricles under local anesthesia—1 per cent. novocain—and preliminary morphin. The authors think that from the beginning they avoid the principal difficulties by approaching the arytenoid from the bottom,

i. e., disarticulating it at the onset, above all if one cuts the vocal and muscular apophyses with scissors instead of trying to extricate them. Ventriculectomy is difficult, even in the cadaver. Too large an intervention exposes one to ptosis of the arytenoid (if that has been preserved) or of the arytenoid region (if the cartilages have been removed). Intralaryngeal manipulations are facilitated by immobilizing the part operated—the posterior wall; this may be accomplished by sliding the end of a Z shaped spatula against the pharyngeal face of the arytenoid, or during arytenoidectomy the arytenoid and during ventriculectomy the vocal cord may be fixed with a fine-tooth forceps.

Tracheotomise, if this has not been done. Do not operate an inflamed larynx. Local anesthesia, superficial and deep, with novocain 1 per cent., and regional of the two superior laryngeals by a puncture or two at their emergence. A preliminary injection of morphin makes the patient less nervous and more docile. As soon as the larynx is opened its interior is anesthetized with 10 per cent. novocain to avoid dangerous reflexes. Sometimes a few whiffs of chloroform are necessary at the end if the patient is enervated. Before the arytenoidectomy and the ventriculectomy (if chloroform is not given) infiltrate the posterior wall with novocain. Make a cricothyrotomy or a thyrotomy. The lips of the endolaryngeal mucous incision are sutured to the skin with fine horse hair well spaced not to favor sphacelus.

Arytenoidectomy.—A single horizontal horse shoe incision, immediately above the true cords, or a vertical interarytenoid incision. Disengage the prearytenoid process, after cricoarytenoidian liberation, then submucous decortication of the cartilage and finally ablation (with fine cutting forceps or Davis gouge) of the inferior half of the arytenoid at least and if possible of almost all save the vocal and muscular apophyses. Decortication of the intraventricular mucosa. Introduce Kocher's forceps to the bottom of the ventricle, draw out the mucous membrane like reversing the finger of a glove and cut it off with scissors close to the orifice of the ventricle. This is of absolute importance and is rendered difficult by adhesions of the inflamed mucosa. Finish the cavity with a curette; if necessary destroy with galvanocautery any mucous membrane spared by the curette.

Postoperative tamponing.—The tracheal canula being in place (preferably Sargnon's laryngostomy canula) the larynx is tamponed the first days with vaselined chiffon gauze and the following days with

rubber wrapped gauze coated with 4 per cent. Scharlochrom pomade or with oxygenated vaseline-lanoline.

Rubber dilatation.—This is done with a good thick drainage tube bedded in the laryngeal cavity after having been wrapped in gauze covered with sheet rubber anointed with pomade. The caliber is increased by steps to about $1\frac{1}{2}$ or 2 centimeters; it is necessary to dilate a good deal in order to obtain and retain a sufficient caliber. An autoplasty is necessary to close the stoma, but this must not be done until certain that the larynx has the desired form and caliber and has resumed its physiological functions. It is sometimes prudent (particularly with a new operation) to have a surveillance fistula at the lower end of the old stoma which should not be entirely closed.

ANNALES D'OCULISTIQUE. Mars.

- *1. L'hémorrhages des gaines du nerf optique. L. Dupuy-Dutemps.
- 2. Quelques considérations théoriques à propos des études d'hygiène oculaire faites au laboratoire central d'électricité. A. Broca.
- 3. Etudes des principales sources de lumière au point de vue de l'hygiène de l'oeil. A. Broca et F. Leporte.
- 4. Le traitement de l'entropion trachomateux par l'extirpation du tarse. L. Steiner.
- 5. La forme du cristallin accommodé. Dr. E. Schneider.

*1. Hæmorrhage in the sheath of the optic nerve needs a revision of what has been taught about it. Its ophthalmoscopic signs do not correspond to the description by the old writers. Two cases are given of hæmatoma of the sheath consecutive to meningeal hæmorrhage without fracture of the optic canal, one was traumatic and the other was spontaneous. The bilateral hæmatoma of the sheath is due to penetration into the vaginal cavity of blood effusion from the cranial subarachnoid spaces. In the first case, 13 hours after the accident slight edema of the papilla was observed with soft edges, dilated veins and small disseminate retinal hæmorrhages. In the second, diffuse hæmorrhages of the vitreous existed since the stroke. Histological study showed: that the intravaginal hæmatoma did not extend toward the globe beyond the anterior end of the cavity and did not pass the scleral barrier; that the blood did not penetrate the optic nerve trunk; that it infiltrated the connective tissue surrounding the central vessels, forming a continuous muff which accompanies them as far as into the orbit, a track for propagation of ecchymosis which had not yet been

described; that papillary edema existed without any inflammatory reaction; and the retinal hæmorrhages had no continuity with the hæmatoma. First and foremost one should distinguish clearly the (intravaginal) hæmorrhage of the sheath, which remains a perineural effusion, from spontaneous or traumatic hæmorrhage in the nerve trunk itself. Their symptoms and most often their etiology differ completely. It is because they neglected this distinction that authors, interpreting inexactly certain facts set forth by Magnus, have confounded these two processes under the common designation hæmorrhage of the optic nerve and have attributed to hæmatoma of the sheath symptoms, like delayed peripapillar hæmorrhage, which do not belong to it. The proper symptomatology of hæmatoma of the sheath may be modified or masqued by added signs dependent upon a wound or hæmorrhage of the nerve; it would be impossible to distinguish among the diverse symptoms those which belong to one or the other of the concomitant lesions and there would be danger of giving them an inexact interpretation. Thus ophthalmoscopic modifications and functional troubles very probably due to contusion of the nerve have been wrongly considered by Knapp and others as manifestations of an intravaginal hæmorrhage. Etiologically, except the complex cases due to a local traumatism, hæmatoma of the sheath has always been a result of subdural meningeal hæmorrhage. Fracture of the optic canal is as a matter of fact lacking as an etiological factor in most of the traumatic cases. Thus intravaginal hæmatoma, despite the rarity of published cases, should really be a frequent phenomenon accompanying almost constantly and necessarily all diffuse subarachnoid hæmorrhages; but it is most often overlooked because the physician too often neglects ophthalmoscopic examination and anatomic research. Papilloretinal ischæmia does not belong to the disease under discussion; it would require a pressure greater than the tension of the central artery, and that would mean a fatal injury. We can not afford space to give more of this important discussion, which we think well worth studying in extenso.

REVUE GENERALE d' OPHTALMOLOGIE, 31 Mars.

Diagnostic et localisation des corps étrangers intraoculaires par le radiographie. Malot.

J. OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY. March.

1. Reclination in tremulous cataracts. P. de Obarrio.

*2. The pathological tonsil. Hugh Miller.

*2. The tonsil may be pathological without being inflamed. Above the supratonsillar fossa there is a conical space filled with loose tissue the apex of which is directed externally toward the Eustachian tube between the upper border of the superior constrictor muscle of the pharynx and the lower surface of the levator palati muscle. The tonsil may be dislocated into this space, buried out of sight above the palato-glossus and palato-pharyngeus; these muscles tend to force it upward and outward toward the pharyngeal orifice of the Eustachian tube interfering with the functions of the latter. Thus secretions, even pus, accumulate and favor otitis media with later a chronic purulent stage of this. The tonsil may be brought into view upon gagging the patient with the tongue depressor. "This displacement is not rare, especially in children." Cases are given of obstinate otorrhea which ceased promptly upon enucleation of such tonsils.

J. OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY. April.

1. The Indian operation for cataract. Flavel B. Tiffany.

*2. The significance of subnormal temperature and its relation to insomnia and loss of hearing. N. R. Gordon.

*2. A very interesting suggestive paper deserving thoughtful perusal. The author believes habitual subnormal temperature to be rather frequent, especially in persons over 50 years old and in younger people who are below par physically. He attributes it to intestinal intoxication with defective elimination. There are apt to be no pronounced subjective symptoms directly proper to this condition, but low temperature "signifies low vitality, low blood pressure, slow and weak heart action, dry and inactive skin, slow movement of blood through capillaries, a general depression in all vital processes, accumulation of mucus in all the mucous passages, due possibly to arterial stasis as well as increased function of activity." From the latter it is easy to see how deafness may ensue.

"Internal medicine will surpass surgery in value to the human race within the next twenty-five years," said President Dr. John B. Murphy to the Clinical Congress of Surgeons of North America last November. He added that if he had to study again for the profession he would unhesitatingly take up internal medicine in preference to surgery.

SOCIETIES.

April 23, 1914.

JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY AND LARYNGOLOGY,

Dear Editor:

You will be delighted, I know, to read the enclosed letter just received this day from Dr. Franklin H. Martin, Secretary of the American College of Surgeons. This to me is one of the biggest triumphs which homœopathy has ever obtained, in that it places the American Institute on a par with the A. M. A. by a body of old school men.

We never should have secured it had we not taken a dignified but stiff position in our demands for equality. It has been rather a bitter pill for them to swallow, notwithstanding the fact that they were, I think, exceedingly anxious to do the fair thing by us. There has been a certain wing in their party which has been favorable toward this recognition from the start, but there has also been another wing which has quite actively opposed it, so that in granting the request by unanimous action there has been some good missionary work done. This means, of course, we shall have our pro rata representatives on the Board of Regents.

I assume you will want your readers to get the benefit of this news.

Sincerely,

DEWITT G. WILCOX,
President.

Chicago, April 18, 1914.

Dr. DeWitt G. Wilcox,
419 Boylston St.,
Boston, Mass.

My dear Doctor:

I take pleasure in informing you that the Board of Regents of the American College of Surgeons at its last meeting in New York unanimously recommended that the American Institute of Homœopathy be placed on the same basis as the American Medical Association, Clinical Congress of Surgeons of North America, and other associate societies. By referring to our directory or the circular I sent you

recently, you can ascertain definitely what that relation will be. I am quite sure that with the unanimous recommendation of the Board of Regents there will be no difficulty in making the change in the constitution which will be necessary to bring this matter about.

I am writing this same information to Dr. James C. Wood.

With kind regards, I am yours very truly,

(Signed) FRANKLIN H. MARTIN,
General Secretary.

NEW YORK OPHTHALMIC HOSPITAL.

On May 15, 1914, the degree of Oculi et Auris Chirurgus was conferred, in course, upon the following four students:

Evan Shelby Connell, M. D., Kansas City, Mo.

Frederick Richard Lintleman, M. D., Harlan, Ia.

Morell B. Beals, M. D., New York.

William Le Furgay Case, M. D., New York.

ABSTRACTS.

Postgraduate study and progressive efficiency should be encouraged by **distinctive degrees**. Consider for a moment the significance of the appellation of "doctor." It stamps its possessor as one learned in the vast and abstruse science of medicine and of surgery. . . . The callow graduate who has not yet mastered even the rudiments of his chosen art, whose educational shallowness is exposed in every professional opinion which he utters, whose crass ignorance is but too frequently betrayed by his habitual abuse of his mother tongue—such a man is dubbed the peer, nominally, of the most profound scholars in our professional ranks.—STEPHEN Y. HOWELL, *N. Y. S. J. of M.*

A solution of 1 tablet of **formamint** in 10 cc. of saliva destroyed in from five to ten minutes streptococci, pneumococci, typhoid and diphtheria bacilli. This culture added to culture tubes sterilizes them. To 10 cc., each, of normal and of formamint saliva were added 2 drops of a 24 hour-old culture of bacillus prodigiosus and shaken up. Agar plates were inoculated with 0.1 cc. of this infected saliva both immediately and after four hours; they were kept dark and at room temperature. After four hours all the germs had been destroyed in the formamint saliva.

The Edison incandescent lamp, carbon filament, evolves heat amounting each hour to 14 British thermal units per candle power.

The British thermal unit is the heat required to raise one pound of water one degree Fahrenheit.

The calory is the amount of heat required to raise one gramme (= one cubic centimeter) of water one degree centigrade.

The tonsil, believes B. H. Orndoff, has for its function the early establishment of immunity to bacterial toxins. Its location is most suitable for the certain collection of specimens of every kind of germ entering the oronasal region. When the bacteria have been in crypts long enough to elaborate a sufficient vaccine, which is transported by the lymph current through the system, an immunity not associated with a toxemia has been induced for that form of bacterium. This organism is then annihilated by bactericidal substances brought by the returning lymph current and is removed from the system.—*Pac. Coast J. of H.*

Ambylopia from hæmorrhage is unusual and, as a rule, involves both eyes in about the same degree. In only a few instances has ophthalmoscopic examination been made within a few hours after the advent of the blindness. In these the optic nerve head presented a washed ap-

pearance, with very slight or not any swelling; and the area surrounding the nerve showed a faint opacity, extending to the macula lutea and diminishing toward the periphery of the retina. Small, brilliant spots and minute hæmorrhages were seen in the retina. In the majority of cases ophthalmoscopic signs are either negative or are present as slight neuroretinal changes, but in a small number the fundus changes are markedly prominent. Severe cases will show the nerve head of chalky whiteness; the contour indistinct; the retinal arteries narrowed, and the veins, by contrast, of normal retinal size. Hæmorrhages may be present. These changes may be permanent, or there may be an improvement in some of them. The ophthalmoscopic findings do not correspond with the degree of loss of vision. With pronounced fundus changes good visual acuity may be present, and vice versa. There seems not to be any relation between the amount of blood lost and the degree of possible improvement in vision; nor has the date of the appearance of blindness any bearing on the prognosis. Recovery is possible even after perception of light has been abolished for several days, provided the pupillary reaction to light is retained. In the more favorable cases, the duration of the ambylopia will vary from a few minutes to many hours. In the majority of patients the improvement—if it comes at all—is noticed not immediately but after several days, weeks, or even months (Groenouw).—*Interstate Med. Jour.*

Acquirement of Visualizing Power (and Development of Dreams) Following Extirpation of a Cerebral Tumor. Miss H., aged 22, a college graduate, 12 years ago was struck with a croquet mallet on the right posterior parietal region causing a severe nosebleed. On examination that area was tender. Among other symptoms she had epileptiform convulsions and headaches. Operation revealed a depressed area of the dura just below the parietal eminence corresponding to the tender area and to a conical protrusion of the inner table of the skull. A new growth, dark red, soft, pulpy, vascular, and attached to the dura, occupied the region of the angular gyrus. At no point did it seem to invade the cortical substance. Diagnosis: endothelioma of the dura. Patient made a good recovery from the operation, but recently has had some minor epileptiform attacks.

The morning following the tumor she was quite excited by the sudden ability to make mental pictures of objects and persons—a faculty quite foreign to her previous capabilities; also she had had a dream consisting of mental images. Before the accident she was as bright as her associates. In college she had a very poor memory—could not form mental pictures, she could not visualize, could not remember the faces of even her father and mother.

A very interesting case, too long to do justice to here.—*J. A. M. A.*, Dec. 13, 1913.

Tuberculous laryngitis complicating pulmonary tuberculosis. The localities most important to watch in the first stage, or in suspicious cases, are the interarytenoid space and the false cords; these show the first signs of infiltration. In the former there may simply be a slight swelling with a central invagination of the mucous membrane, or else a warty or villous growth between the arytenoids or lower down between them and the false cords. The false cords later become thickened, and punctate areas redder than their surroundings can be seen. Either or both of these changes in a patient with pulmonary phthisis the author deems sufficient evidence of tubercular involvement. In this stage there is seldom any change of voice, except after exhausting efforts of speech or physical fatigue.

In the second stage, the arytenoids and true cords also show infiltration, and maybe the cartilages of Santorini. The cords, slaty gray and lusterless, may be pink streaked in their body with deep injection at their posterior (arytenoid) insertion. Hoarseness, occasional attacks of aphonia and a severe cough on loud talking. No pain nor dysphagia in either first or second stage.

Third stage, epiglottis involved and arytenoids infiltrated too, edema, ulceration, pain and dysphagia. Nasal regurgitation is more marked if epiglottis is infiltrated or ulcerated.

In this affection the two sides are never symmetrically involved, one side always is much worse than the other.

TREATMENT.—*Local.* In all, even suspicious, cases cleanliness and relieve the congestion and inflammation. Cleanse by wiping with cotton on an applicator, at first lightly, with a mirror; go over the whole surface. Robinson avoids any local anesthetic in this procedure so as not to have secondary congestion, and follows the wiping with an alkaline solution, then with protargol or argyrol, etc., 10 per cent. to 25 per cent. The cotton pledget of fair size is thoroughly saturated and introduced as far as possible below the chink of the glottis so that the muscles squeeze it out and the solution is spread over the whole lower surface of the true and false cords by the air in coughing and breathing.

If the case is not severe, a cold compress at night about the neck, but night and day in severe or ulcerative cases.

For severe pain from ulceration apply—with a mirror:

R. Anesthesin ʒij (8 g.).
 Iodine gr. x (0.6 g.).
 Alcohol fʒj (4 cc.).
 Glycerine q. s. ad. fʒiij (100 cc.).

Powders are uncleanly, tend to accumulate and absorb the secretions, becoming irritating and foul smelling; they afford opportunity for inspiration pneumonia.

Voice rest as absolute as possible is important. Should the laryngeal inflammation increase the tuberculin must be reduced in dose or frequency or stopped altogether, but laryngeal edema calls for increasing dosage as rapidly as consistent with pulmonary indications. Thus often ulceration can be avoided. Escharotics aggravate.

PROGNOSIS.—More favorable than ten years ago, depends on the stage of the disease and “the individual resistive power.” All “first stage” cases (above) should attain an apparent cure; also “second stage,” except that about 25 per cent. of these will first be aggravated; 8 per cent. to 10 per cent. in the “third stage” can obtain apparent cure, but slowly—perseverance is necessary despite discouragement.—F. N. Robinson, Monrovia, Cal. *Mo. Cycl.*, Sep., 1912.

BOOK REVIEWS.

EMANUEL SWEDENBORG'S INVESTIGATIONS IN NATURAL SCIENCE, AND THE BASIS FOR HIS STATEMENTS CONCERNING THE FUNCTIONS OF THE BRAIN. By MARTIN RAMSTROM. Paper, quarto, 59 pages, $11\frac{3}{4} \times 8\frac{1}{4} \times \frac{3}{8}$ ", with frontispiece and 1 plate, \$1.50. University of Upsala, 1910. The New Church Press, 3 W. 29th St., New York.

This monograph, beautifully printed on heavy cream colored linen paper with wide margins, uncut, is a valuable contribution to the rapidly growing appreciation of this great scientist. Although his most lasting fame will be from his religious writings, which contain philosophy that has been pronounced the soundest of all, he has gradually been recognized of late as an investigating genius of the first rank who opened new paths in several branches of the natural sciences and made wonderful discoveries. Prof. Anders Retzius found in his writings a "scope, induction and tendency which could be compared only with Aristotle." Since then several authors have expressed themselves in a similar manner and testified to his work; among these are Berzelius, Nordenskiöld, Arrhenius, Dr. J. J. Garth Wilkinson, Prof. Dr. Immanuel Tafel, and Dr. Rudolph Tafel and Prof. Max Neuburger.

Emmanuel Swedenborg was born at Stockholm in 1688, was graduated by Upsala University in 1709, was assessor in the Royal College of Mines from 1716 to 1747, and died in London in 1772. He was the son of Bishop Swedberg, but in 1719 he was ennobled and his name changed to Swedenborg. He never married. His learning was many-sided, comprehensive and penetrating: mathematics, astronomy, geology, mineralogy, chemistry, physics, cosmology and engineering, in each of these he excelled and made many mechanical inventions among which may be mentioned a steam engine, a flying machine which apparently would have been practicable if he had possessed our light weight gasoline engine, and in 1719 he published a decimal system for money and measures. In 1734 he published a nebular theory so much like that worked out later by Kant and Laplace that it is safe to assume that these consciously or unconsciously were indebted to Swedenborg. Swedenborg published two volumes of a work on "The Economy of the Animal Kingdom" devoted chiefly to the study of the blood, the brain and the soul, going into the embryology of the organs; in this he was considerably ahead of his times. Later he supplemented this with "The Animal Kingdom" and finally with "The Brain."

The brain had already been studied macroscopically and microscopically. Swedenborg was the first to assert that the globular bodies, "cerebellula," are the most important part of the cortex, that from them the nerves originate thus communicating them with all parts of

the body, and that the cortex was the seat of both the sensory and motor activities of the soul in the body. Virtually the "Neurone theory" of today. He separated the vegetative centers from the cerebrum. His conception of the brain is very modern, although much of it can be found in the literature of the time.

New was his thought of attributing the psychical functions to the cortex; new also the attempt to localize them—he placed these in the anterior region of the cerebrum. Perceptions, thoughts, judgments, conclusions, and ultimately will and determination issue from the highest ("in the crown") of the three lobes of this anterior region.

Swedenborg described the optic thalami as a secondary center in the course of the path of sight, the corpora striata in the path of the sense of smell; these perceptions could become conscious however only in the cortex. He located the muscular centers for the feet in the highest of the three lobes of the anterior region of the cerebrum, in the middle lobe were the motor centers for the abdomen and thorax, and in the third lobe those for the head and face. The grounds upon which Swedenborg concluded that the cerebral cortex is the seat of the soul's activity are:

1. From clinical observations, postmortem discoveries and experiments upon animals, which he collected from literature;
2. A summing up of the comparatively recent discoveries in microscopic cerebral anatomy; and
3. An hypothesis of continuous connection between the cortical cells and the fibers of the cerebral medulla.

His theory that the function of the cortex was essentially the summing up of the activities of the cerebellula, and that the latter were connected into groups corresponding to the various kinds of perceptions and movements was grounded in part upon the discoveries of Malpighi and others and in part upon Swedenborg's clinical experience and conclusions.

GUIDE TO THE MICROSCOPIC EXAMINATION OF THE EYE. By Prof. R. GREEFF, Director of the Ophthalmic Clinic in the Royal Charity Hospital, Berlin, with the co-operation of Profs. STOCK (Freiberg) and WINTERSTEINER (Vienna). Translated from the third German edition by HUGH WALKER, M. A., M. B., C. M., Ophthalmic Surgeon to the Victoria Infirmary, Glasgow. Linen, 86 pages, 10 $\frac{5}{8}$ x-7 $\frac{1}{4}$ x1 $\frac{1}{2}$ ", illustrated. \$2.00, net. London, The Ophthalmic Press; New York, Paul B. Hoeber, 69 E. 59th Street.

This practical work gives the essence of Prof. Greeff's microscope course brought up to date and supplemented from the clinics of Stock and Wintersteiner.

It has appeared serially in the pages of *The Ophthalmoscope*. The first German edition was the first attempt to collect such matter as may be specially useful to the ophthalmologist, because the eye demands

treatment in many respects different from technique that is satisfactory for other organs and tissues; many such points are not found in general hand books on microscopic work—notably that involved in the division of the bulb. The contents are arranged in “general” part I, as to methods and then in “special” part II, the successive tissues of the eyeball followed by secretions, bacteria, staining of *spirochæta pallida* and trachoma corpuscles. This is supplemented by a couple of pages of two column index.

Half a page is devoted to orientation of the eyeball: “equatorial sections” are made parallel to the plane of the equator, “meridional sections” parallel to the plane of a meridian, but it is necessary to specify the meridian concerned. “Horizontal axial” or “horizontal meridional” are unequivocal terms, but “radial” conveys no definite information.

This book shows how to determine the different planes and axes, even after the eye has been enucleated and hardened, and how to so mark the eye.

When a conjunctivitis is subsiding the secretion, even though abundant, may be germ free or contain only parasitic bacteria. A flake of *mucus* should be removed (while the disease is still advancing) from the lower conjunctival sac or at the inner canthus with a sterile platinum loop (in case of need with a clean thin match). The mucus should then be spread, very thin and uniform, upon a slide. Specimens taken from the inner canthus are apt to be contaminated by parasites from the skin.

We think the description of Loeffler's methylen blue solution would be better if supplemented by telling how much methylen blue is required to make its saturated alcoholic solution and the best strength of alcohol.

A HISTORY OF LARYNGOLOGY AND RHINOLOGY. By JONATHAN WRIGHT, M. D., Director of the Department of Laboratories, N. Y., Post-graduate Medical School and Hospital. *Second edition*, revised and enlarged. Cloth, 357 pages, 9 $\frac{7}{8}$ x6 $\frac{1}{2}$ x1 $\frac{1}{8}$ ", illustrated, \$4.00, net. Lea & Febiger, Philadelphia and New York, 1914.

Everyone interested in the nose and throat will want this book, will find difficulty in laying it down after beginning to read it. The author aimed “to link together the story of the records of the nose and throat in medicine with the general drift of medical history, with the salient features in the early history of the civilization of mankind and with the general literature bearing upon the central subject of the work. He certainly has succeeded in rivetting the attention of his reader. We are told that the word nose has the same stem “in all known European languages,” and are shown a list of thirty-four languages in each of which it begins with n—except the Greek *ris*, *rin*os. The history begins with Egyptian medicine; apparently the Ham-

murabi Library has not yet revealed anything about the nose and throat. Perhaps the most interesting three pages are those devoted to the physiology of the pharyngeal tonsil—worthy of mention in the next edition is Hugh Miller's contention that an otherwise normal tonsil maybe "often dangerous" when dislocated out of sight upward and outward, so that it presses upon the Eustachian tube perpetuating an otorrhœa. And also the author might with advantage give Frank E. Miller's explanation* of the apparent injury to the voice by tonsillec-tomy (the latter's amygdalokelyphy) which produces a *new resonance chamber*, a new condition in the voice, calling for special vocal exercises and results in a better voice than before. "Between the idea that the tonsil should be removed because it was too large, and the belief that it is a source of danger when small, the operating laryngologist has reaped a golden harvest." The function of the tonsil "still remains one of those many attractive subjects that make medicine a delight to the student of biological science."

THE HOMŒOPATHIC PHARMACOPEIA OF THE UNITED STATES. *Third edition, revised.* Published by the Pharmacopeia Committee of the American Institute of Homœopathy. 8vo. 680 pages, 9½x6x1⅞". Price, cloth, \$3.25, net; half morocco, \$4.00, net. Delivered in any part of the United States at \$3.50 and \$4.25, respectively. Otis Clapp & Son, Agents, Boston. 1913-1914.

That the lapse of a dozen years warrants another revision of this necessary book is evinced by the fact that "ten" new remedies have been added and "nine" have been dropped. Running through the book twice we miss *Coriaria ruscifolia*, *Fragaria vesca*, *Mercurius aceticus*, *Ranunculus flammula*, *Spirea ulmaria*, *Strychninum purum*, and *Tillea Europea*. The additions are: *Crategus oxycanthus*, *Echinacea angustifolia*, *Fraxinus Americana*, *Mephitis mephitica*, *Radium bromatum*, *Strychninum phosphoricum*, *Thymus serpillum* and *Glandula thyroidea* (*Thyroidinum* is listed but not to be found among the remedies except as one of the synonyms of the last named). 698 remedies are given in this volume.

The decimal system is adopted, for notation as well as preparation, because of the confusion incidental to the dual system and because "we have yet to learn of any satisfactory reason why it should be continued." The table showing the decimal and centesimal scales is omitted. The changes in this revision involve capitalization, pronunciation, chemical symbols, atomic and molecular weights. The table of atomic weights is inexcusably antiquated. The modern system

*Amygdalokelyphy, Frank E. Miller, JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY AND LARYNGOLOGY, Jan., 1914, p. 31.

(based upon oxygen) should have been presented ($H = 1.008$), and the list might as well have been made complete, giving the 7 elements lacking, including Niton (radium emanation) Nt., 222-4 and Radium, Ra, 226-4. Didynium is not found in the modern roll of elements.

Instead of stating that the double iodid of mercurius and potassium "is prepared with potassium iodid and mercuric oxid" why was not the reader told that "it is made by dissolving the red iodid in a weak solution of KI? Approximately twice the bulk of KI will put HgI_2 in solution to form this new salt K_2HgI_4 ."* But what seems to us the most serious error of this revision is the omission to rectify the old error of "trigonocephalus lachesis." Hering's "original snake" is still preserved and has been identified as *lachesis mutus*, the bushmaster, it was not a lance-headed viper, lachesis trigonocephalus. It is a great pity that this opportunity was lost to make official record of the truth in regard to lachesis.

If there are any left who still prefer the old way of making different classes—different strengths—of tinctures with their resultant lack of uniformity, because some favorite tincture, like china, was 1/6 instead of the present uniform 1/10 drug power, it should suffice to suggest that the weaker tincture can be given in a larger dose. It is rather late in the day to urge the advantage of having uniform drug strength of tinctures, dilutions and triturations.

*This JOURNAL, Oct., 1913, page, 410.

The Journal of Ophthalmology, Otology and Laryngology

Vol. XX

Lancaster, Pa., and New York, July, 1914

No. 7

EDITORIAL.

NEW REQUIREMENTS BY THE O. AND O. SOCIETY.

THE American Homœopathic Ophthalmological, Otological and Laryngological Society has taken a step, in accordance with the trend of the times, which it is expected will make membership more valuable. Hereafter men will not be asked to join but will ask for the honor of membership; the question—spoken or unspoken—will be “Why are you not a member?” and the implication will be that those not members are ineligible or have failed of election. At the recent meeting the by-laws were amended to the effect that no one now is eligible for membership unless he or she satisfies the Board of Censors that he has either (1) served a year as interne in a special hospital; (2) graduated from a reputable medical school which gives a course in our specialties; (3) served one year in the office of a doctor whose practice is limited to these specialties; or (4) had three years of independent special practice and submits a report of fifty consecutive medical and surgical cases with their histories, his treatment and results. In addition he must present to the Board of Censors a paper upon some subject in one of these specialties.

PRESIDENTIAL ADDRESS.

J. IVIMEY DOWLING, M. D., O. ET A. CHIR.

DELIVERED TO THE AMERICAN HOMŒOPATHIC OPHTHALMOLOGICAL,
OTOLOGICAL AND LARYNGOLOGICAL SOCIETY AT ITS TWENTY-
SEVENTH ANNUAL MEETING IN THE HOTEL DENNIS,
ATLANTIC CITY, N. J., JULY 1, 1914.

CHAOTIC medicine was more than ever upset by Hahnemann's simple declaration, "*Similia Similibus Curentur*," for previous to his making the statement, cupping, leeching, bleeding and purgation had been the resorts for all bodily ills.

Hahnemann's statement of a law of cure excited all the frenzies of the scientific animal—man. His insistence as to its truth, and persistence in making it serve in the selection of the appropriate remedy for a given disease, made his name a bye word, and won for him the opprobrium of a profession always slow to accept new teachings, and jealous lest the old be replaced by the new.

Indeed we may well claim that Hahnemann was the great emancipator, for he taught what he believed to be truth, and fought for the right of medical freedom in both belief and practice. Not alone in drug therapy was he a pioneer, but his teachings as to diet and sanitation are still sound practice.

It is but a comparatively short time since Hahnemann died, but his influence lives, and *the emphasis he gave to details makes him truly the father of all specialties, just as Hippocrates is the father of all medicine.*

Hippocrates, the father of medicine, paved the way for Hahnemann, the father of specialties. He in turn painted the sign and pointed the hand that directed the way, through his *psora theory*, to the truly scientific fact of germ infection, and by means of the small dose and potentization indicated possibilities that have since been realized in radium, vaccine therapy and allied methods of treatment that are to-day accepted and unchallenged.

The error of Hahnemann's opponents, and even of his immediate adherents, was the belief that in enunciating a law of cure Hahnemann likewise proclaimed a system of medicine, which naturally means a collection of ideas and methods so arranged and connected as to

make one complex whole or, in other words, of all medical practice a single entirety.

In the cooler, saner, judgment of this day we readily realize the futility of such belief. Instead we now apprehend the truth, which if it had been comprehended and recognized at the time of Hahnemann, would have proclaimed the fact that instead of founding a *system* the great medical emancipator had merely enunciated the regulations that govern a *specialty*.

Therefore the definition of homœopathy should now be revised, and I wish to submit for the consideration of this society, and recommend the adoption of, the following, viz:—**Homœopathy is a therapeutic drug specialty, primarily governed by the law Similia Similibus Curentur.**

In the light of these suggestions it must naturally follow that Hahnemann should be conceded the honor of having evolved the art of the specialist, and therefore we, as oculists, aurists, rhinologists and laryngologists, should do him honor and acclaim him *the father of specialties*, and endeavor to secure to his memory such recognition and acknowledgment by all bodies of medical practitioners.

The benefits that have accrued to all mankind, through Hahnemann's efforts, are now conceded by most honest, generous and truth loving scientific physicians.

The errors that crept in through the credulity of devotees and the bitterness of opponents should now be forgotten, and should rest in the grave of historic peace. Hahnemann should ever be remembered, and homœopathy proclaimed as the original and still living therapeutic specialty. History must give him a dignified place and present generations do him honor.

Let us, as a Society, allow controversy to rest and instead do our part toward perfecting the great specialties of which we are accepted sponsors.

In the matter of research there is much to be gained through the constant study of such more or less obscure conditions as glaucoma, progressive myopia, cataract, iritis and various diseases of the uveal tract. The relationship of the various nasal accessory sinuses to such conditions is accepted by an ever increasing number of specialists; clinically proven but as yet to be scientifically demonstrated. Who knows but that within the year some one of our members may discover the actual facts concerning glaucoma?

The recent advances concerning operative measures are of wonderful virtue, but the truth concerning the actual cause would be of far greater value, for if known the disease could then be truly controlled.

I urge you, fellow members, to correlate your cases and endeavor to promote the cause of scientific specialties. Originality in thought and research may be of as great value in our members as in the deductions of members of other similar societies.

I wish to commend the research of some of our members and their efforts in promoting our knowledge of certain eye and ear conditions. Let us, as a body, emphasize the value of their ideas by proclaiming the source of their original deductions. Research concerning the relation of nasal accessory sinus disease to rheumatism, cervical adenitis, diseases of the tonsils and other contagious or infectious diseases, well merits your attention. However, research is not for us all, but the proper instruction of our patients is a duty that each and every one of us can and should perform.

I have in mind two things of which the average patient is woefully ignorant: they are the proper means of blowing the nose, and the disgusting and potentially evil use of what I term "the family handkerchief."

You all know that if the nose is blown as in the Valsalva method of inflating the ears, there is danger of infecting the ear on such side as a nasal obstruction exists; but do your patients comprehend this danger? I will answer for you. They do not. Therefore teach them the proper way, which is to hold one nostril tightly closed while blowing through the opposite naris. They will thereby free the nasal chambers, ethmoids and other sinuses of secretion, without danger to the ears.

Concerning "the family handkerchief," I merely wish to say that it is to be found in the homes of the well-to-do as well as in the households of the lowly. It may be an embroidered creation in the first instance, or, in the second instance, it may be the soiled apron or even the mud bedraggled skirt that may bedeck the tenement dweller. That this is no figment of fancy may be easily proven by submitting some such family article to laboratory investigation. Staphylococcus, streptococcus, pneumococcus, gonococcus and other germs will readily be discovered and therein may be found the reason for baby's cold or other disease.

By means of the popular prints, information to the public is now

furnished by reputable physicians concerning tuberculosis, infantile paralysis and other diseases; but such ailments as head colds, the proper means of blowing the nose and "the family handkerchief" are sadly neglected.

The privilege and duty of the members of this society should be to disseminate such knowledge in the best way possible, and to the fullest extent.

I, as your President, urge every member of this society to direct his efforts to that end.

116 Washington Avenue,
Albany, N. Y.

A CASE OF STAINING OF THE PALPEBRAL AND OCULAR CONJUNCTIVA.

J. K. M. PERRINE, M. D.,

Pittsburgh, Penn.

MR. B., clerk, age 22. While at work a fellow workman accidentally upset a bottle of indelible ink, splashing a large quantity into the right eye of his companion at the same desk. After inquiring as to what was known about the composition of the ink, I was referred to the chemical department, and was told that it was composed principally of methyl violet.

Very little pain was experienced but considerable interference with the vision was at once noticed: he could only read with the affected eye 15/60, while the left eye was slightly better than 15/15.

I could detect practically no damage to the palpebral and ocular conjunctiva or to the cornea, except that they were colored a dark violet about the intensity of a ripe phytolacca berry.

After thorough cocainization the eye was flushed with three ounces of 50 per cent. alcohol. After waiting 30 minutes the eye was again cocainized and the same quantity of a 75 per cent. alcohol solution was used. Following this the eye showed marked improvement, being now a delicate bluish-pink color. On the following day the eye was quite red and showed a slight violet color. It was decided to give another similar treatment, using a 95 per cent. solution. This entirely removed the stain but left the eye intensely red. One drop of a 1 per cent. solution of atropin sulphate was instilled after each treatment.

On the fifth day the eye showed very little sign of the action of the alcohol and vision was clear: with $+ 0.50 = 15/15$. Patient discharged, all signs of stain having disappeared.

This case is of interest because:

- (1) The amount of alcohol used and the rapid improvement.
- (2) A rare accident and the importance of knowing the chemical properties of the ink.
- (3) That it has been up to the present time almost a universal rule to use nitrate of silver in making indelible inks. In this case the exclusion of nitrate of silver gave hopes, providing the eye would stand the large amount of alcohol which had to be used.

5225 Center Avenue.

A SARCOMA OF THE MEDIASTINUM PRESENTING EARLY LARYNGEAL SYMPTOMS.*

JOSEPH V. F. CLAY, M. D.,

Philadelphia, Pa.

BEFORE presenting for your consideration the case we wish to report, let us briefly review some anatomical and physiological facts having a special bearing upon laryngeal paralysis dependent upon disease of the mediastinum.

The larynx receives its nerve supply from the vagus, through the superior laryngeal and inferior, or recurrent, laryngeal nerves. Some authorities however maintain that the motor nerve arises from the ramus internus accessorii which joins the vagus after its exit from the jugular foramen.

The superior laryngeal is given off just opposite the hyoid bone and enters the larynx through the aperture in the thyrohyoid membrane with the superior laryngeal artery. Coursing beneath the mucosa of the sinus pyriformis, it supplies sensation to the mucous membrane of the larynx. It divides into two branches: the external branch supplies the motor power to the crico-thyroideus; the internal branch, through the plexus of Galeni, with the inferior laryngeal supplies sensation to the deeper parts of the larynx and trachea. Paralysis of this nerve alone is very infrequent; when present it is usually a postdiphtheritic condition and then is associated with paralysis and anesthesia of the soft palate. Paralysis of the superior laryngeal nerve would occasion anesthesia of the laryngeal mucosa (absent if the external branch alone is affected) and paralysis of the crico-thyroid muscle. The affected cord presents a wavy outline and appears below the level of the unaffected cord.

The inferior, or recurrent, laryngeal nerves differ in their point of origin and relations on the two sides. The right recurrent laryngeal nerve is given off from the vagus at the level of the apex of the right lung and below the subclavian artery. It winds around the artery anteroposteriorly, passes upward in the recess between the trachea and

*Reported at March Meeting of Eye, Ear, Nose and Throat Society of Philadelphia.

esophagus to the lower posterior surface of the larynx. The left recurrent laryngeal nerve springs from the vagus as it crosses the arch of the aorta, winds around the concavity of the arch, passes up behind the origin of the left common carotid artery and thence to the groove between the esophagus and trachea to the larynx. The recurrent laryngeal nerve conveys motor stimulus to all the intrinsic muscles of the larynx except the crico-thyroid muscle. These muscles may be divided into the adductors—those causing a narrowing of the glottis, and the abductors—those causing a widening of the glottis. Thus we may have adductor paralysis or abductor paralysis, or both, depending upon the extent to which the nerve is involved.

Paralysis of the recurrent laryngeal nerve may be due to aneurism of the aorta, (left side) innominate and subclavian arteries, (right side) disease of the apex of the right lung, malignant disease of the esophagus, less frequently goiter, enlarged lymphatics, mediastinal tumors, pleurisy and pericarditis. It may be injured in operation or stab wounds. Neuritis and perineuritis the result of infections, chronic lead, arsenic or alcohol poisoning may result in paralysis. In some cases a cause cannot be ascribed.

We cannot in this paper go into the details of the varieties of the paralyses we may have in the larynx as the various muscles or groups of muscles are affected, but shall consider briefly unilateral complete paralysis of the recurrent laryngeal nerve. This form of laryngeal paralysis is more frequently found to be unilateral; the most prominent symptom is alteration in the voice. After the paralysis has existed for some time, the healthy cord compensates to a degree; the voice is impure or cracked, and may assume a double sound in forced speech.

Laryngoscopic examination shows the affected cord in the "cadaveric position" during both inspiration and phonation: the arytenoid is tilted slightly inward and appears shortened. In recent cases, during phonation the healthy cord approaches the median line and leaves a triangular space toward the paralyzed side. In long standing paralysis this space is obliterated by the healthy cord over-riding the paralytic cord.

Case: E. F. S., male, sixty-three years old, German. Unable to obtain a definite family history, but his father died very young and his mother lived to be seventy-two years of age.

Personal history: Admits an attack of urethritis when quite young,

but denies lues. In April, 1900, while in Germany, he developed some chest condition the exact nature of which the attending physician did not disclose but advised the patient that there were several spots in the left chest which would not heal. For thirty years had an ulceration of the right leg in the lower third of the fibular aspect; this developed following an injury, but never healed. Was always a heavy smoker, smoking cigars all day, and was a moderate but regular consumer of alcohol.

Present condition: For several months experienced a vague abnormal feeling in the left side of the chest corresponding to the infra-clavicular region. At no time did this amount to pain or discomfort. On January 19, 1913, his voice became husky. Next day he could speak only in a whisper; with this a dry paroxysmal painless cough. He thought he had caught cold. He was informed by his physician that he had an acute laryngitis. The symptoms persisting, on February 10, 1913, he consulted us. At this time his chief complaint was his inability to talk except in a husky cracky voice. He did not complain so much about the cough. No loss in weight, no sweating, appetite good, bowels somewhat constipated.

Status: Pupils react to light and accommodation, the left pupil slightly larger than the right; fundi normal; vision, with correction, normal. No facial paralysis, tongue protruded in median line; the knee jerks markedly diminished. Ears: both membranes dull and slightly retracted. Nasal mucosa hyperemic; pharynx injected; laryngeal mucosa anemic. The movements of the right vocal band normal, the left cord remaining stationary (in cadaveric position) between adduction and abduction. There is no anesthesia and no change in the outline of the cords.

The patient was referred to Dr. W. R. Williams for physical examination of the chest. He reported as follows:

Feb. 17th. Well nourished German, ruddy. No abnormal pulsations in chest or neck; some enlargement of veins of the upper chest; slight epigastric pulsation; pulse 98, regular in force and rhythm; radials synchronous; some cyanosis of hands when standing; left edge of heart at nipple line; no enlargement to right; no abnormal dullness over the sternum; sounds generally diminished; no murmurs; second aortic not abnormally accentuated; no murmur over aorta; blood pressure 135—85 both arms; no tracheal tug; breath sounds diminished all over chest; reflexes normal with exception of eye signs and diminished knee jerks."

Dr. W. J. Frank made stereoscopic radiographs of the patient and was able to demonstrate a marked shadow in the superior mediastinum beneath the sternum and to the left. This Dr. Frank felt was a neoplasm.

The patient, refusing a Wassermann, was placed on potassium iodide in ascending doses; this was continued for several weeks. Noting no improvement in the condition and the onset of iodism, the salt was withdrawn. It was interesting to note however that the ulcerated condition of the leg began to heal as soon as the iodide was given. This gave us some encouragement at the time.

May 3d. Patient again examined by Dr. Williams, who found some enlargement of the right thyroid; pupils equal and reacting normally; pulse wave in the left arm not so large as in the right; blood pressure in right arm 115—75, left 110—75. Second pulmonic sound seemed to be accented; no murmurs; no tracheal tug; veins in chest quite evident; pulse 116. There was a palpable gland over the left clavicle.

May 28th. Laryngeal condition same. Patient reports feeling fine, has suffered no loss of strength, no difficulty in swallowing or breathing. Some pain in the left side. Cough less troublesome.

I did not see patient again until the middle of July at which time he was much emaciated, complained of weakness and dizziness, pain in left infraclavicular region extending through to shoulder. The enlargement of the right lobe of the thyroid had entirely disappeared. The enlarged gland over the left clavicle still present. The heart sounds were distinct. The left radial pulse was decidedly less in volume than right. Laryngeal condition was unchanged.

The progress of the case from this time on was one of gradual exhaustion associated with harassing attacks of hiccoughing which would last for hours at a time and suddenly cease. The pain in the infraclavicular region became atrocious, and thus the patient suffered until he died September 25th, a little over eight months after the onset of his laryngeal paralysis.

Autopsy was performed by Dr. Raymond Leopold two and one-half hours after death and the condition found was as follows:

"No rigor mortis; subcutaneous fat normal. Upon opening the chest a large nodular mass presented, attached anteriorly to the left border of the sternum and first three ribs and extending to the sternal notch. This appeared to be the parent growth originating in the superior mediastinal lymphatic glands. The mass extended posteriorly

to and into the pericardium, surrounding the arch of the aorta, pulmonary artery, left root of the trachea and left bronchus. Secondary nodules extended posteriorly about the esophagus, and other nodules downward spread over the dome of the diaphragm on both sides. Although the arch of the aorta, esophagus and left bronchus were completely imbedded in the mass there were no constrictions of macroscopic involvement of the coats of these structures. The left lung was bound down by dense fibrous adhesions between the visceral and parietal pleura, the lower fourth of the lung being collapsed and attached by strong adhesive bands. There was an area twenty by fifteen cm. of chronic exudative pleuritis beneath which were nodules of various sizes. The right lung was adherent, and upon removal showed minute tubercular lesions. The lower one-half base of right lung was edematous and showed some nodules running down to the bronchial root. The heart showed fatty degeneration and brown atrophy. The mitral ligaments contained calcareous plaques. A large gall stone was found in a very atrophic gall bladder.

Microscopic examination of sections of the growth taken at several portions of the growth:

The tumor consists of a richly cellular round cell sarcoma. Sections taken along the course of the growth show uniformly the same picture; masses composed almost entirely of small and large spherical cells resembling embryonic connective tissue cells. There is little intercellular substance consisting of delicate fibrils and strands of connective tissue. Occasionally a broad band of supporting fibrous tissue is seen containing many new and large vessels with some perivascular exudate, mainly neutrophilic.

The metastatic growths—on pericardium and diaphragm—resemble the primary growth in all characteristics. On the pericardium and in the areolar tissue between the fibrous pericardium and the myocardium are many islands and nests of sarcoma cells. In general sections interesting microscopic metastases are seen following the course of minute capillaries down into the bottom of the myocardium. These small nests range in size from a few cells to islands of considerable microscopic size and lie at points of bifurcation of the capillaries. On the diaphragm the secondary growths are profuse and often seen invading as plugs between the bundles of muscle fibers.

We were unfortunate in not having been able to section the growth through the vagus and recurrent laryngeal nerves.

2102 Chestnut Street.

COUGHS.*

ROBERT MORTIMER JONES, M. D.,

New York.

EVERY practitioner of medicine is called upon, at one time or another, to prescribe for coughs, and at the present time, when there seems to be a prevalence of acute rhinitis, pharyngitis and laryngitis, it may be of interest to consider briefly the coughs which do not yield to the ordinary remedies.

We have so many remedies in our materia medica, the provings of which have been so clearly defined and the administration of which has achieved such brilliant results, that it is disappointing to fail to cure a persistent cough after the most careful study of the totality of the symptoms.

The coughs in these cases frequently prove to be of reflex origins, and the removal of the causes of the conditions often effects speedy cure.

Elongation of the uvula is a very common cause of a reflex cough, the tip of the uvula just touching the base of the tongue or the margin of the epiglottis, causing a hacking cough, most disagreeable to the patient, and not amenable to medical treatment.

Hypertrophy of the lingual tonsil frequently causes paroxysmal attacks of coughing, aggravated by use of the voice, accompanied by a pricking sensation and the feeling of a foreign body. On examination the mass of lymphoid tissue may be found so large as to push the epiglottis backward.

An area of ulceration in the glossoepiglottic fold may cause a persistent cough, which will cease after one or two applications of some astringent.

Acute inflammation in the larynx with cough, but with no perceptible lesion, not yielding to medical treatment, will sometimes be entirely cured by the application of some astringent in the pyriform sinus, acting in the way of a counter irritant.

Varicose conditions of the vessels of the pharynx and larynx cause cough and a constant desire to clear the throat of what seems to the

*Read to the N. Y. County Homœopathic Medical Society.

patient a foreign body. Rupture of one or more of these vessels gives rise to hæmorrhage which is frequently attributed to other causes.

Hyperæmia of the mucous membrane of the larynx and trachea is often noted in these cases of persistent cough, particularly of the trachea, in which cases soothing applications of oil by means of the nebulizer will give relief where remedies fail to do so.

Elongation of the faucial tonsils is frequently the cause of a reflex cough; the faucial tonsils are not necessarily markedly hypertrophied but may be elongated to such an extent as to be in contact with the base of the tongue, sometimes pushing the tongue over somewhat to the side.

Deformities in the nose, spurs or ridges on the nasal septum, forming a point of contact with one or other of the turbinates, are causes of reflex coughs. This is especially marked in cases of enlargement or malposition of the middle turbinate where pressure is caused at the point of contact. In some instances the examining surgeon produces paroxysms of coughing by passing a probe or applicator over a ridge or spur on the nasal septum. These cases are cured by correction of the deformities and destruction of the contact point.

A very common cause of reflex cough is pressure from impacted cerumen in the external auditory canal, the patient not being conscious of loss or diminution of hearing, but complaining only of the hacking cough. I have treated a great many cases where the washing out of the mass of cerumen was immediately followed by cessation of the cough.

136 Madison Avenue.

TONSILLAR HÆMORRHAGE AND ITS TREATMENT.*

OTIS D. STICKNEY, M. D.,

Atlantic City, N. J.

THE partial or complete removal of the tonsils is one of the most frequently performed operations. It is done not only by those specializing in nose and throat work, but very often by those who have had little or no special training in this line. Therefore it is hardly to be wondered at that now and then hæmorrhages occur which are difficult to control and which occasionally terminate fatally.

As to serious and fatal hæmorrhages, the following are among those which I have seen reported:

Dr. E. A. Crockett, in the *Annals of Otology, Rhinology and Laryngology*, December, 1913, reports twelve deaths from hæmorrhage from tonsil operations in one and a half years in Boston and vicinity.

Dr. Lindley Sewell reports nineteen deaths and fifty severe hæmorrhages, which were controlled with more or less difficulty.

Dr. G. H. Cocks, in the *Medical Record* of June 1, 1912, reported that in searching the literature he found one hundred and seven cases of alarming bleeding from tonsil operations, with thirteen deaths from hæmorrhage.

Ballenger reports that in two thousand cases of complete removal of the tonsils he had only a half dozen moderate hæmorrhages.

J. Payson Clark, in the *Annals of Otology, Rhinology and Laryngology* of June, 1913, reported one case of severe hæmorrhage in one hundred and forty-three patients operated in the Massachusetts General Hospital.

In about one thousand tonsil operations of my own, I have had five or six severe hæmorrhages; three of these occurred when I had only had a very slight experience. Now, in reflecting upon them, I feel that they could have been prevented or if not actually prevented could have been more easily controlled.

Before attempting any operation, it is presumed that we are familiar

*Read before the New Jersey Homœopathic Medical Society.

with the anatomy of the part to be operated upon. The tonsillar region should be no exception.

If one would avoid hæmorrhage when operating upon the tonsils he should possess a knowledge of this region. Then if hæmorrhage does occur, he will be better able to try to control it.

The tonsils are located in a triangular depression on either side of the oropharynx, known as the tonsillar fossa. In front of the tonsil is the palatoglossus muscle, behind it is the palatopharyngeus muscle; these muscles are covered by mucous membrane and form respectively the anterior and posterior pillars, which are the anterior and posterior boundaries of the fossa.

The external boundary, or floor of the fossa, is the superior constrictor muscle of the pharynx and its aponeurosis. The mucous membrane covering the pillars divides; part of it continues over the tonsil and the other part dips inward to join the fibrous capsule, which envelops the external two-thirds of the tonsil. It is at this juncture of the mucous membrane with the capsule that the tonsil is most adherent; it is only loosely attached to the superior constrictor muscle.

Davis, in the *Laryngoscope*, March, 1914, states that the principal artery of the tonsil is formed by an anastomosis of the descending palatine branch of the internal maxillary with the ascending palatine branch of the facial. Besides this are the tonsillar branch of the facial, twigs from the dorsalis linguæ, lingual and ascending pharyngeal. The principal artery of the tonsil enters the fossa at its superior extremity, and courses downward between the capsule and the aponeurosis of the superior constrictor muscle, penetrating the tonsillar capsule near its midpoint. Two veins usually emerge from the tonsil at the same point where the artery enters. One of these veins passes upward and the other downward. I have frequently observed these veins, beneath the aponeurosis of the superior constrictor muscle, after the removal of the tonsil. Bleeding from the divided veins is usually of shorter duration than that from the arteries.

The main trunks of these blood vessels are external to the muscles forming the fossa. Therefore if one would avoid profuse hæmorrhage, he should endeavor not to injure these muscles. In case the pillars are deeply injured, or part of the superior constrictor muscle is excised or torn away during the removal of the tonsil, the opening of one of the larger blood vessels is probable.

An injury to the internal carotid is almost impossible as it is from

three-fourths to one inch external to the tonsil, so that it could only be opened by extreme recklessness unless it occupied an altogether anomalous position.

Among the factors predisposing to hæmorrhage should be mentioned: hæmophilia and other blood states attended with its diminished coagulability; age; operating during the menstrual period; the use of sharp instruments; the incomplete removal of the tonsils; operating during acute inflammation of the tonsils; and anomalous distribution of blood vessels.

Before undertaking the removal of the tonsils it is advisable to question the patient, or the parents, for a history of bleeding.

In anæmia the coagulability of the blood is often diminished. If one would take the time to correct this, serious hæmorrhage might often be prevented. Recently I have operated upon several adults who looked very anæmic; being suspicious that they might bleed freely, they were given calcium lactate in ten grain doses t. i. d. for three days preceding the operation. The hæmorrhage in these cases was exceptionally slight, so the calcium lactate may have increased the coagulability of the blood. Recently I read in a report of the proceedings of one of the nose and throat societies where one of its members had taken the coagulation time of the blood in fifty cases. To these individuals was then administered calcium lactate for three or four days; their coagulation time was again taken and found to be unchanged. This does not look as if the calcium lactate were of real value in increasing the blood coagulability.

Dr. M. A. Goldstein wrote an article for the *Laryngoscope*, in which he says that he takes the coagulation time of the blood before all his tonsil operations. To those patients in whom it exceeded seven minutes (which he gives as the normal time, according to his method of determination) he administered ten cc. injections of normal horse serum for several days. The coagulation time was then taken again; if it was found to be reduced to seven minutes or less, he proceeded to operate. Since taking this precaution, he has had no troublesome hæmorrhages.

As a rule, tonsil operations on adults are attended with more bleeding than those on children; this may be explained by the fact that adult tonsils are usually more fibrous than those of children. This increased fibrous tissue tends to prevent the contraction and retraction of the blood vessels. The latter are naturally larger in adults, and often the blood pressure is higher.

The removal of the tonsils during menstruation is inadvisable, as the coagulability of the blood is diminished at this time and, besides, the patient's vitality is often lowered. Therefore it is better to defer any operative procedure until the period is over.

In removing the tonsils I prefer rather a dull to sharp instruments. It has been my experience that where I have used sharp cutting instruments the hæmorrhage has been more troublesome. As I do all my tonsil enucleations under general anesthesia, I feel that I may use rather duller instruments than I could if I were operating under local anesthesia.

Personally I am not in favor of the use of suprarenal gland preparations either before, during or after the removal of the tonsils, as after their vasoconstrictor action subsides there occurs a secondary dilatation which increases the possibility of postoperative hæmorrhage.

I have satisfied myself that the partial removal of the tonsils is attended with more bleeding than their removal en masse in the capsule. It has been my experience that where I have accomplished smoothly the removal of the tonsil in its capsule there is left a comparatively dry, smooth, fossa with very little bleeding. On the other hand where, owing to an error of technique, the tonsil has been torn so that a portion of it remains behind, there frequently is left a ragged, bleeding surface. Then when I have attempted the removal of this remaining portion with a punch or scissors, annoying hæmorrhage has frequently occurred.

Operating on the tonsils while they are acutely inflamed is inadvisable, as their congested, hyperæmic condition predisposes to more copious bleeding. Besides the danger of infection of the tissues forming the fossa and its surroundings is increased.

It is stated that, as a rule, males bleed more than females. I do not know of any adequate explanation for this.

The method which I use in removing the tonsils merits no special description. I would only mention that I always operate with artificial illumination—an electric head mirror. Most of the operation is performed with a Hurd dissector, which cannot be classified as a dull instrument, yet it is not so sharp as a knife. About the upper three-fourths of the tonsil is dissected loose before it is pulled out of its bed. The snare is then applied to sever the remaining attachment.

After the first tonsil is removed a tampon of sterile gauze, rolled into a firm ball and held on a curved hæmostat, is pressed firmly into

the tonsillar fossa. Firm pressure is made with this against the bleeding surface for two or three minutes, while the patient is being further anesthetized. The tampon is then removed, and with the pillar retractor on the opposite end of the Hurd dissector the anterior pillar is retracted and the fossa inspected. As a rule, the bleeding will be found to have ceased. In case there is still some hæmorrhage another tampon may be introduced, or if the bleeding is rather free and one or more distinct bleeding points can be recognized, these may be grasped with hæmostats. Usually when the hæmostat is removed the hæmorrhage will be found to have stopped. In case it has not, one has recourse to suturing the anterior and posterior pillars together. In the instances where I have done this, I have sometimes included some of the lateral tissues in the suture. Two or three sutures so applied have always put an end to the hæmorrhage in my own cases.

I am not favorably inclined to the use of the various pressure clamps, where one extremity of the clamp fits into the tonsillar fossa and the other is applied externally beneath the angle of the jaw. Five or six years ago one of these clamps was used in two of my cases. In one of them a partial paralysis of the corresponding half of the tongue resulted. This disappeared in four weeks. In both instances the pressure caused a cessation of the bleeding.

The treatment of tonsillar hæmorrhage may be divided into: preventive; that during operation; and after operation.

By preventive, I mean the possible causes of hæmorrhage (which have already been enumerated) should be borne in mind and avoided.

As to bleeding during the operation, that may be controlled by one or more of the procedures already mentioned. It is the duty of the operator to be as nearly certain as possible that all bleeding from the tonsils has ceased before the patient is removed from the operating room. If he exercises his greatest care, inspects both tonsillar fossæ and ascertains that they are practically free from bleeding before the patient is removed from the operating table, I feel that he will be rarely called upon to cope with immediate postoperative hæmorrhage.

After the patient has been returned to his bed he should be laid on his stomach. In this position, if there be any bleeding, the blood tends to flow out of the mouth rather than into the stomach as it would if he were lying on his back. The patient should be encouraged to lie as quietly as possible, and advised not to talk or clear the throat any more than is absolutely necessary.

If despite the precautions already enumerated bleeding does occur and it is not copious, one may try having the patient suck ice, and may douche the face with ice water. The latter procedure stimulates the vasoconstrictors. If the bleeding continues, the throat should be inspected under good illumination and a tampon should be pressed firmly into the fossa from which the hæmorrhage comes. The tampon may be moistened with one of the astringents—such as silver nitrate (two per cent. solution), alumol (five per cent.), potassium permanganate (one-eighth grain to the ounce), saturated solution of equal parts of tannic acid and gallic acid, or hydrogen peroxide. If pressure with the tampon fails to check the bleeding it may be possible to grasp the bleeding vessel with a curved hæmostat. If unable to do this, it may be necessary to re-anesthetize the patient and suture the pillars; or if the vessel from which the blood is flowing is seen an attempt may be made to ligate it, or to apply a suture ligature. If the bleeding be in the nature of a general oozing one has recourse to the hypodermic injection of normal horse serum in from ten to twenty cc. doses, twice daily, to be repeated for several days. If one cannot procure normal horse serum, diphtheria antitoxin may be used instead.

Coagulose (recently introduced by Parke, Davis & Company) is a powder obtained by precipitating normal blood serum; it contains the fibrin-forming ferments of the blood, necessary for its coagulation, and goes into solution on the addition of six to eight cc. of cold water. This may be used instead of the horse serum. It may also be applied locally in the powdered form on a tampon of sterile gauze.

As to secondary hæmorrhage, I have read of cases occurring as late as the tenth day after operation. I have seen several cases reported which occurred on the fifth day; the separation of the slough which covers the denuded area begins to take place at about this time.

It is my belief that if one is careful in the management of his cases after operation, secondary hæmorrhage may be avoided, or if not actually avoided that it will be of very rare occurrence.

Hajek, of Vienna, advises his tonsil cases to lie in bed for three days after the operation, and that they remain in their room for three more days. This rest tends to diminish the force of the heart beat and lessens the possibility of the dislodgment of a clot, which would result in secondary hæmorrhage.

I believe it is safer to perform this operation in a hospital. I always keep these patients in the hospital at least over the night following the

operation; if they go home the next day they are advised to go to bed for several days.

Care as to the diet after operation assists in promoting safe healing and tends to prevent secondary hæmorrhage. For the first day following the operation I allow these patients to have milk, junket and ice cream. Then for the next five or six days, in addition they are permitted to have broths, custards, soft boiled eggs, etc., but nothing which might scratch or irritate the throat.

Keeping the throat clean after the operation is advisable. I direct them to rinse their mouths and to gargle frequently with an alkaline solution, especially after taking nourishment.

Hydrogen peroxide used in this way five or six times daily is also of benefit. I believe that this frequent cleansing of the throat, beginning the day after the operation, also tends to prevent secondary hæmorrhage from sloughing. I think it is inadvisable to attempt the removal with instruments of the pseudomembrane covering the fossa.

By observing these principles of rest, cleanliness of the throat and care as to the diet, most of the secondary hæmorrhages will be avoided.

922 Pacific Avenue.

Some Medical Concessions. Professor Richard C. Cabot, of Harvard Medical School, concedes: That tuberculin in tuberculosis is homœopathic; that bacterial vaccines are homœopathic in principle; that the small dose of these is homœopathic; that radiotherapeutics is a "striking example of the homœopathic principle;" that the approach to the single remedy is homœopathic; that "regular physicians are wrong in not experimenting with homœopathic remedies."

Professor von Behring, of antitoxin fame, concedes: That the word homœopathy expresses best the ideas of immunity and vaccine treatment.

Professor Huchard, of *Ecole de Medicine*, Paris, concedes: That homœopathy has many truths, both in application and dosage.

Professor Gimeno, of the medical faculty of the University of Madrid, concedes: That Hahnemann's law of similars is scientific and sound.

These concessions coming from those high in authority from the older school should induce every physician of that school to lay aside prejudice, acquired or inherited, and look into homœopathy, which can be best done by studying the publications of the homœopathic school.—*Pac. C. J. of H.*

CORNEAL ULCERS.

R. C. CONKLIN, M. D.,

Buffalo, N. Y.

THE choice of this topic for a paper does not indicate that I have made any new discoveries along this line of eye work, or that I am to bring out any form of treatment differing from that which may be found in any good work on the eye. But during the past few months there have come under my observation more than the usual number of cases of severe corneal ulceration due to many different causes and forms of infection, and this fact led me to think that a brief description of a few of the more common forms of corneal ulcer, together with a report of several cases, would be of interest to the society.

Ulcers of the cornea are variously classified. As regards development, they are considered as primary when originating in the cornea itself, usually as the result of traumatism, or as secondary when developing in consequence of disease of the other parts of the eye, as for example, the conjunctiva. As to position they are marginal or central, superficial or deep. In character they are simple or infected. They are also often an evidence of impaired nutrition or of constitutional disease.

One of the simplest forms of corneal ulcer is that which occurs in phlyctenular inflammation. It may be either marginal or central, and is the result of the breaking down of a phlyctenule. The patients are usually young and poorly fed children, often with unhealthy tonsils and adenoid growths in the nasopharynx. Another variety of simple ulceration is that which occurs as a small greyish spot of infiltration at the center of the cornea which breaks down later, forming a slight depression; the infiltration extends somewhat around the ulcer into the corneal tissue. This ulcer is slow to heal and generally leaves either a slight opacity or a transparent depression or facet. These ulcers are usually found in anemic or strumous children.

Infected ulcers are those due to the invasion of the cornea by pyogenic or pathogenic micro-organisms such as streptococci, staphylococci, pneumococci, etc. These ulcers vary in form, character and

position, pursuing a course dependent largely upon the nature of the micro-organism that has invaded the tissue and its power of resistance to the same.

They may be marginal or crescentic, as when due to the bacillus ulceris corneæ described by Zur Nedden; or to the diplobacillus of Morax-Axenfeld; or central with a yellowish, irregular undermined and advancing border accompanied by hypopyon, as when due to the pneumococcus lanceolatus; or central, circular and with slightly raised borders, but not undermined, also with hypopyon as when due to the streptococcus pyogenes aureus; or central, circular and with ragged and thickened margins not undermined but surrounded by densely infiltrated corneal tissue, the ulcer filled with greenish pus accompanied with marked hypopyon, as when caused from infection by the bacillus pyocyaneus; or in the shallow funnel-shaped ulcer, spreading rapidly in all directions, the floor of which is covered by a gelatinous debris accompanied by early symptoms of iritis and considerable hypopyon, due to infection by Friedländer's pneumobacillus. And lastly we have the rodent ulcer described by Bowman and Mooren, characterized by a marked superficial ulceration followed by cicatricial tissue, which is slightly vascular and covered by new formed epithelia. The progress of the ulcer is extremely slow and irregular with frequent periods of arrest. This process may continue for months or even years until the entire cornea is traversed. The determining cause of this ulceration is yet unknown.

Disturbance of the corneal epithelium is necessary for the formation of an ulcer. The first sign of a focus of inflammation in the cornea is a clouded spot caused by infiltration. The epithelium becomes involved and is exfoliated, then the corneal tissue breaks down progressively. An unhealthy ulcer of the cornea presents the same general appearance as an ulcer of any other part of the body. Its base is grey and uneven, its edges cloudy and often undermined. An ulcer which progresses with greater rapidity at its base is more likely to cause a perforation of the cornea, while one which progresses more rapidly at the sides leaves a larger opacity. A regressive ulcer becomes healthy by throwing off dead tissue and by the absorption of exudate, its base becomes smooth and its edges less opaque; at this stage minute vessels develop, originating in the marginal loops of the conjunctiva and running to the ulcer. Their office is to supply material for regeneration: their appearance is therefore a sign of cicatrization. The newly

formed tissue however is not corneal but connective. Bowman's membrane is never replaced except by fibrous tissue, hence an ulcer which involves other layers in addition to the epithelial causes more or less opacity.

The chief symptoms that would lead one to think of corneal ulceration are pain and photophobia, together with more or less blepharospasm and congestion and accompanied by increased lacrimation. Great pain in and around the eye often attends the early stages of a corneal abscess and is common in most cases of acute ulceration. As a symptom it of course always needs careful attention. Photophobia is generally more marked in children than in adults and worse with superficial than with deep ulceration. It should always lead one to a careful inspection of the cornea. The amount of congestion varies with the location and cause of the ulceration, with the patient's age, and is mostly due to distention of the subconjunctival twigs of the ciliary zone.

When a patient appears with any of the above mentioned symptoms a careful and systematic examination of the cornea should be made in a darkened room, by the aid of oblique illumination and the binocular loupe. If an abraded point or spot of infiltration is discovered, one should look for the presence of a foreign body or misplaced cilium, which may have been the cause; it is well also to make inquiry of the patient as to any recent injury to the eye. If an ulceration of any extent is discovered, a smear should be taken from the same for microscopical examination; the conjunctival sac thoroughly flushed with a saturated solution of boric acid or a 1-5,000 bichloride of mercury, the ulcerated spot carefully curetted then dried and touched with iodine tincture. A 2 per cent. solution of atropin should be instilled unless the ulcer is peripheral and deep, when a $\frac{1}{2}$ per cent. solution of eserine sulphate may be substituted. A light dressing and bandage should be applied and the patient enjoined to keep quiet, preferably in bed. The dressing is removed and replaced as often as necessary for cleansing and local applications. Once in four hours hot compresses should be applied for thirty minutes at a time to promote healing, and a generous diet ordered. If at the expiration of twelve hours the ulcerative process is less marked, the above treatment is continued; if not, and the ulcer is spreading and the infective element proves to be one of the more virulent forms of micro-organisms, the eye should be cocainized, the extent of the ulceration outlined by the instillation

of a few drops of a 2 per cent. solution of fluorescein, the base and sides of the ulcer thoroughly curetted and then lightly touched with the galvanocautery at a dull red heat, a 2 per cent. atropin solution instilled and the eye again bandaged. If no improvement follows this treatment, manifested by continued pain, infiltration and increase of the hypopyon, it is well to repeat the cauterization at the end of twenty-four hours, or else liberate the hypopyon by a Saemisch incision through the base of the ulcer to be followed by atropin and a pressure bandage as before, this incision to be opened daily with a probe until the ulcer begins to heal.

I make it a practice to administer a cathartic at the beginning of the treatment, followed by hepar, mercurius, silicea or whatever remedy seems indicated by the totality of the symptoms.

In the case of indolent ulcers it is well to give subconjunctival injections of normal salt solution or nuclein, stimulating the cornea by application of 2 per cent. yellow oxide ointment, or to dust on powdered calomel. In large superficial corneal ulcerations which obstinately resist other curative measures, a conjunctival flap reflected over the ulcerating surface and held in place by sutures will usually promote healing. In closing I would like to report a few cases of corneal ulcer, treated after methods above mentioned.

Case 1. Master G. W., age 5, was brought to my office on August 9th. His mother said that since an attack of whooping cough in the spring he had been unable to breathe through his nose and had suffered from frequent attacks of sore eyes, during which she had been obliged to keep him in a darkened room. Both eyes were tightly closed and it was with difficulty that I was able to get a view of either cornea. A small central ulcer was discovered on the right side and two marginal phlyctenular ulcers on the left. Both faucial tonsils were greatly enlarged and the nasopharynx filled with adenoid vegetations. I had the patient taken to the hospital where, under general anesthesia, the corneal ulcers were curetted and touched with tr. iodine, the tonsils and adenoid vegetations thoroughly removed. A 1 per cent. atropin solution was ordered instilled in each eye night and morning and as the general symptoms of the child were strongly suggestive of *calcareo carbonica* that remedy was given in the 30th potency three times a day. The child left the hospital at the end of a week with the corneal ulceration healed and the nasopharynx and throat in a healthy condition; there has been no recurrence of the trouble to date.

Case 2. Mr. H., age 65, called at my office on September 16th last saying that for several days he had felt an irritation as of a foreign body in his right eye together with a severe neuralgic pain in the right temple. Upon examination I found the conjunctiva slightly inflamed and near the corneal limbus on the temporal side a large, shallow, crescent shaped ulcer with a greyish base. Scrapings taken from this ulcer and examined microscopically showed the bacillus ulceris corneæ. The ulcer was thoroughly curetted. Eserin sulphate $\frac{1}{2}$ per cent. solution instilled night and morning and a solution of zinc sulphate, two grains to the ounce, dropped into the eye every four hours. The patient was placed on a highly nourishing diet, together with a milk punch three times a day. When he left the hospital at the end of two weeks the ulcer was healed leaving a depressed and slightly opaque cicatrix.

Case 3. Mr. S. called at my office complaining of much pain in his right eye; said that he thought something had flown into his eye the day before from the fan on his auto. On examination I found the conjunctival sac full of mucopus and by oblique illumination in the dark room discovered a slight abrasion of the right cornea in the lower outer quadrant. There was no foreign body in the wound or in the conjunctival sac. A smear was taken from the conjunctiva, after which the eye was thoroughly flushed with a warm boric acid solution. Two drops of a 2 per cent. protargol solution were instilled and the eye bandaged. The flushings were repeated every two hours, and 2 per cent. atropin solution used night and morning. I saw the patient at the expiration of twenty-four hours, at which time the corneal abrasion had taken on the appearance of an infected ulcer. As the smear had shown streptococcus the patient was at once removed to the hospital and the entire ulcerated area thoroughly cauterized with the electro-cautery, followed by a continuance of the former treatment. The following morning the eye looked much improved and the ulcer continued to clear until only a small spot remained foul near the center, which had to be touched with the cautery again at the end of ten days, after which healing was rapid. The patient however left the hospital at the end of fourteen days and returned to work before the ulcer had completely filled in or the pupil come back to normal. As a result there have been several recurrences of ulceration at the site of the injury, and much redness and photophobia. This however has cleared up under the use of a per cent. yellow oxide ointment locally,

and silicea 30th internally. At the present the eye shows no inflammation and but slight haziness of the cornea.

Case 4. Mr. H. D., a farmer, first came to my office on April 12, 1913. He was suffering from a large marginal ulcer on the temporal side of the right cornea, also several large and deeply ulcerated spots on the right side of the face and on the forehead above the right eye; he said that these were the result of being in contact with poison sumach a few days before. Gave no history of previous ocular trouble.

The right eye was thoroughly flushed with a saturated solution of boric acid, the ulcer dried and touched with tr. iodine, a 2 per cent. atropin solution instilled, and the eye bandaged. He was given *rhus glabra* 30th on disks, two to be taken every two hours, and was told to report in twenty-four hours.

On the second visit the ulcer showed symptoms of clearing and the condition of the face seemed much improved; the same treatment was repeated and the internal remedy continued, under which the inflammatory condition around the eye cleared up in about a week, leaving deeply pitted scars on the forehead; the corneal ulcer healed with a marginal white scar. About two months later the patient reported at the office, saying that his right eye was again troubling him. On looking at the same I found that the white scar tissue left from the previous ulceration had broken down, forming another ulcer with a yellowish irregular undermined border, the convexity of which was directed toward the healthy cornea. A small hypopyon was beginning to form. A smear taken from the ulcer showed pneumococci. I at once removed the patient to the hospital where under cocain anesthesia the undermined border was cut away and the entire ulcerating surface was cauterized with the electric cautery; 2 per cent. atropin was instilled, the eye bandaged and patient put to bed, a cathartic administered and *rhus glabra* ordered internally. The following morning the eye looked much improved, the hypopyon had disappeared and the eschar had begun to come away; the ulcer cleared in three days and went on to an uneventful healing with no further trouble to date, the scar being less noticeable than before the cauterization.

Case 5. Mrs. N. B., housewife, age 62, came to my office on December 12, 1912, with a small ulcer on the lower outer part of the left cornea. The edges were much thickened, surrounding cornea densely infiltrated and the floor covered with greenish yellow pus. There was a small hypopyon. She had also suffered from an ag-

gravated form of ozena for years, occasionally removing very large, black, foul smelling crusts from both sides of the nose. There was no history of previous eye trouble. A smear was taken from the floor of the ulcer. The left conjunctival sac was thoroughly flushed with saturated boric acid solution, the ulcer dried and touched with tr. iodine and the eye bandaged; she was given silicea 30th on disks internally and told to report in the morning. But as her eye pained her very much during the day, she called at the office the same evening, when the above treatment was repeated.

Dec. 13th. Patient reported at the office early in the morning saying that she had suffered all night with severe pain in the left eye. I found that the ulcer had spread somewhat into the healthy cornea and that the hypopyon was much larger. As the report showed *bacillus pyocyaneus* I removed her at once to the hospital and under cocain anesthesia thoroughly cauterized the ulcer with the galvanocautery, instilled 2 per cent. atropin and bandaged the eye, with orders to flush it every two hours with warm boric acid solution and rebandage. Two drops of a 2 per cent. protargol solution were instilled night and morning and 2 per cent. atropin as often as necessary to maintain complete mydriasis. The nose was thoroughly cleansed of all dried secretions and kept so. On Dec. 14th, as the ulcer was still spreading and hypopyon much larger, I decided to make a Saemisch section and remove the hypopyon. With a very sharp Graefe knife, under ether anesthesia, the puncture and counter puncture were made in healthy cornea, but on cutting upward, the entire base of the ulcer came away together with the hypopyon, the iris coming forward and blocking the wound. Atropin 2 per cent. was at once instilled and a compress bandage applied. After this the entire cornea became opaque but did not break down farther, the eye healing with a large adherent leucoma.

Case 6. I was called April 18, 1912, to see a man of advanced years. His daughter stated that for the past six months he had been suffering from an almost continuous inflammation of one or both eyes. On inspection I found the right cornea entirely covered by an irregular faintly grey cicatrix. The outer third of the left cornea was affected by a superficial ulceration with a greyish white undermined border advancing toward the healthy corneal tissue. The patient was removed to the hospital where, under general anesthesia, the advancing border of the ulcer was curetted and touched with the actual cautery. Protonuclein special was dusted upon the ulcerating

surface, 2 per cent. atropin instilled and the eye bandaged. This treatment was repeated twice, at intervals of two days but without checking the advance toward the healthy cornea. By this time approximately half of the cornea had become involved. As the treatment by the cautery seemed of no avail, a broad conjunctival flap was dissected up, reflected over the ulcerating area and held in place by sutures above and below the cornea. This flap remained in place for nearly a week; the ulceration meanwhile having healed beneath it with slight opacity and with no relapse of the ulceration up to the time of his death about eight months later.

21 W. North Street.

Adenoids and Tonsils.—Dr. A. Coolidge, before a large audience at a public lecture of the Harvard Medical School, recently made the following statement: “Adenoids and tonsils should not be cut out unless they are doing great harm to the system. Adenoids are found only (?) in children,* and the profession cannot state definitely what their purpose is for, but we do know that they receive infectious germs that enter the mouth and prevent them from getting into the general system. When they fail to do this, trouble results.” The homœopathic school of medicine has long recognized the necessity of keeping the tonsils in a normal condition and this is easily done by properly prescribed medicines. Adenoids will also disappear when the tonsils are kept in a healthy condition. Only in cases which have been left untreated for a long time will surgical intervention be necessary—then look out for tuberculosis.—*Pac. C. J. of H.*

*I have operated them in a patient about 37 years old.—JOHN L. MOFFAT.

HOMŒOPATHIC MATERIA MEDICA AND THERAPEUTICS.

Some Eye Remedies.

JOHN L. MOFFAT, M. D.

CYCLAMEN EUROPEUM. Sow bread.

Objective.—Swelling of upper lids.

Subjective.—Eyes burn; dryness and pressure.

Vision.—*Dim, and spots, < on making.* Dim vision as from smoke or fog. *Flickering of various colors.* Photopsis: sees countless stars; fiery specks, sparks, glittering needles. Flickering of the light, on trying to read.

Characteristics.—Torpid mind and body. Chlorotic, anæmic women.

Clinical.—Disturbances of vision associated with indigestion or internal disorders. Strabismus from gastric or menstrual disorders. Blindness with headache in left temple, pale face, nausea in the throat and weak digestion.

DIGITALIS PURPUREA. Purple fox glove.

Objective.—Mydriasis. Lid margins red, swollen and agglutinated in the morning.

Subjective.—Slight photophobia.

Vision.—Objects appear *green* or *yellow*. *Muscæ volitantes.* While walking in the evening the *upper part of the field of vision seemed covered by a dark cloud.*

Clinical.—Has been used in detachment of the retina.

DUBOISIA MYOPOROIDES. Cork wood tree.

Objective.—Mydriasis. *Vessels of the disc much enlarged and tortuous. Retinal veins dilated and tortuous. Fundus very hyperæmic.* Retinal arteries diminished in size. Lids slightly edematous; morning agglutination.

Subjective.—*Pain over eyeball just beneath the brow. Sharp pain in upper part of eyeball.* Eyes hot and dry; feel tired as if overworked.

Vision.—*Paralysis of accommodation,* sets in (from instillation) before mydriasis and lasts longer.

Characteristics.—Duboisia is to be differentiated from belladonna; does not have its neuralgia, nor spasmodic action; it has marked *vertigo*, particularly *vertigo with pale face, not gastric in origin.*

Clinical.—Duboisia is of the utmost value in *retinal hyperæmia, with weakness of accommodation. True weakness of accommodation.* Optic neuritis and retinitis. Chronic hyperæmia of the palpebral conjunctiva.

EUPATORIUM PERFOLIATUM. Boneset.

Subjective.—Photophobia. *Great soreness of the eyeballs.*

Clinical.—Has been useful when *excessive soreness of the eyeballs* was a prominent symptom particularly in malarial patients of the eup. perf. type.

EUPHRASIA OFFICINALIS. Eyebright.

Objective.—Conjunctival injection. *Lids, or their margins, swollen and red. Profuse acrid lacrimation.*

Subjective.—*Photophobia. Frequent inclination to blink. Eyes sensitive to candle light. Tears hot and biting. Lids burn and itch. Red margins feel dry. In the eye: burning, biting, itching, obliges frequent winking and wiping. Feeling as if cornea were covered with much mucus, which obscures vision and obliges him frequently to close and press the lids together.*

Vision.—*Somewhat dim, as through a veil, in the evening. Blurred vision > by wiping the eyes or winking.*

Characteristics.—Euphrasia resembles mercurius in acridity, but its *discharges are thick and excoriating*, while those of mercury are thin and acrid.

Clinical.—An important remedy in superficial inflammations, acute catarrhal conjunctiva and even cornea, particularly if there be coryza. Euphrasia has been occasionally used in muscular paresis.

FERRUM METALLICUM. Iron by hydrogen. Fe.

Objective.—Eyes watery, dull, confused. Red, with burning pains. Lids swollen, discharging profusely when opened.

Subjective.—*Photophobia. Eyes ache as if they would protrude. Burning, stinging pains in inflamed eyes. Sticking pain over left eye, comes suddenly and lasts but a short while.*

Vision.—Dark before the eyes; giddy. Letters run together when reading or writing.

Characteristics.—Erythistic anæmia; chlorosis. Pale face flushes readily.

FERRUM PHOSPHORICUM. Ferroso-ferric-phosphate. U. S. P. 1860.
Ferri phosphas albus.*

Objective.—Eyes injected, inflamed; red and sore looking. Stytes.

Subjective.—Dryness and roughness of lids. *Feeling as if grains of sand were under the lids. Burning and soreness in inflamed eyes. Pain in the ball, < moving the eye.*

Characteristics.—First stage of inflammation. The asthenic patient. The pulse, even in fever, is full, soft, easily compressible.

Clinical.—Has proven useful in retinitis, acute conjunctivitis, parenchymatous keratitis when there is excessive inflammation, and corneal abscess in first stage, before hypopion. Great lacrimation and photophobia.

*No. Am. Jour. of Hom., vol. 37, 1889, p. 218. Or Trans. N. Y. State Hom. Med. Soc., 1889, p. 85.

CURRENT LITERATURE.

DEPARTMENT EDITORS.

WM. MCLEAN, M. D.,
New York.

FRANK O. NAGLE, M. D.,
Philadelphia.

ANNALES DES MALADIES DE L'OREILLE, DU LARYNX, DU NEZ ET DU PHARYNX, Mars.

*1. Sur la conduction osseuse dans la syphilis. O. Beck.

2. Corps étranger de l'oesophage ayant provoqué une paralysie récurrentielle double. Extraction. Guérison. H. Barraud.

3. Lieu d'élection pour la trépanation de l'antre mastoïdien. J. Mouret.

*1. In a large number of cases of affections of the internal ear who were mostly affected with secondary, some few with latent, syphilis, bone conduction was notably diminished compared with air conduction, while in cases of the transmitting apparatus the increase of bone conduction was not as marked as in these same otopathies nonsyphilitic. Beck found differences of bone conduction in syphilitics as compared with nonsyphilitics, even in those with normal ears. Normal bone conduction may be found in cases of marked syphilis and in tertiary cases. The diminution is scarcely ever wanting in cerebral syphilis manifested by troubles of the cranial nerves. In parasyphilitics this symptom should be recorded only with precaution. These differences are subject to subjective estimation by the examiner; for this reason our author checked his observations with another observer whose conduction was normal. He thus diagnosed syphilis in unsuspected cases which was confirmed later by mucous plaques and a positive Wassermann.

ANNALES DES MALADIES DE L'OREILLE, DU LARYNX, DU NEZ ET DU PHARYNX. Avril.

*1. De l'audibilité du son. Applications à la physiologie et à la pathologie de l'audition. E. Escat.

2. Trois cas d'extirpation totale du larynx avec le méthode de Gluck et l'anesthésie locale. Ricardo Botey.

3. Sur la rééducation de la ouïe. Laime.

4. Drainage diaméatique du sinus maxillaire. G. A. Weill.

5. A propos de l'opération du sac lacrimonal par voie endonasale.
Dr. S. M. West.

*I. Escat would add to Intensity, Pitch, Timbre and Duration a fifth quality of sound—its Audibility; this is strictly subjective. He defines audibility as "the perceptibility proper to each sound, of equal intensity, comprised between the inferior and the superior limit."

Audibility, a factor of perceptibility, is an independent and fixed quality; it is not influenced by intensity but depends strictly upon the sound's rank in the series of tones, *i. e.*, upon the number of its vibrations. It can be altered only by an anomaly, a physiological trouble or a lesion of the auditory apparatus.

The maximum sensibility of the human ear responds to 3,072 double vibrations (g^4 German, and sol^6 French, notation); this is called the Summum of Audibility.

The zone of distinct sensibility extends from 256 double vibrations (c^1 German, do^3 Fr.) to 6144 d. v. (g^5 G., sol^7 Fr.).

Beyond this zone, toward the limits of the gamut the sensibility diminishes considerably. The theoretical inferior limit of hearing is 8 d. v. a second; the superior theoretical limit is 32768 d. v. Plotting the physiological curve of only do and sol , each tone of the same energy, it was found that at do_2 (8 d. v.) the abscissa was 0; from this the curve of human auditory capacity progresses at first insensibly then very rapidly between 128 d. v. (do^2) — $\frac{1}{2}$ meter — and 256 d. v. (do^3) till its acme, 3072 d. v. (sol^2) which is heard at 170 meters. The curve decreases even more rapidly to reach 0 at about do^{10} (32768 d. v.). The ascending part of the curve covers $8\frac{1}{2}$ octaves, the descending part only three octaves. Do^0 (32 d. v.) is heard at 45 centimeters. Each note was given the same "energy" but we are not told the energy in these experiments.

The study of this strictly subjective property of sound is one of the most essential bases of physiological acoustics. The notion of audibility explains the alteration of timbre under the influence of distance. It constitutes a new physiological basis for acoumetric methods.

The laws of audibility seem to explain (1) why localized affections of the perceptive apparatus manifest themselves from the beginning by lowering of the Summum of Audibility; (2) why the auditory capacity of sounds in the hypersensible zone (sol^6) is the last to disappear in the greatest number of "*hypoacusies*;" (3) why perception of hypersensible sounds (sol^6), which by reason of their excessive audibility can

directly impress the organ of Corti through the aero-cranio-labyrinthine path, survived complete destruction of the tympanic transmitting apparatus the indispensable path for transmission of scarcely audible low-sounds; (4) why in lesions of the perceptive apparatus lowering of the auditory capacity of the hypersensible zone (*sol*⁶) is an earlier and more palpable symptom than lowering the superior limit; and (5) why it is not indispensable to restore (*relever*) a hiatus in the auditory scale in order to diagnose a lesion of the perceptive apparatus.

REVUE GENERALE D'OPHTALMOLOGIE. Avril.

Existe-t-il une immunité naturelle ou acquise contre le trachome? Dr. M. Meyerhoff.

From his experience and studies in Egypt the author concludes that there is no racial and no individual immunity against trachoma; that trachoma after its passage leaves no conjunctival immunity.

ANNALES D'OCULISTIQUE. Avril.

1. Périodontite suppurée et phlegmon de l'orbite. Pierre Sebileau.
2. Note sur l'opération de la cataracte avec ou sans iridectomie. E. Valude.
3. Un cas de téléangiectasie du cervelet. A. Maklakow.
4. Etude sur le myopie comme maladie de race et maladie héréditaire chez les Egyptiens. M. Meyerhof.
5. Etude des nouvelles lampes électriques lumineuses. Action sur l'oeil du rouge extrême et du ultraviolet. André Broca, Jouast, de la Gorce, Leporte.
6. Quelques difficultés de la photométrie des sources lumineuses industrielles. Nécessité d'employer le photomètre le plus simple pour la comparaison des lumières très différentes. André Broca, et F. Laporte.

ANNALES d'OCULISTIQUE, Mai.

1. Le traitement chirurgical du glaucome chronique. V. Morax et A. Fourriere.
2. Le traitement de la syphilis oculaire par le salvarsan et le néo-salvarsan. J. Darrieux.
3. Le diagnostic de la cécité pour les couleurs envisagé du point de vue pratique. F. W. Edridge-Green.

JOURNAL OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY,
May.

1. Blindness following injuries to the back of the head. L. Newmark.

2. The tonsil as an etiological factor. C. R. Harken.

3. Proceedings Chicago Laryngological and Otological Society.

*4. Proceedings Chicago Ophthalmological Society.

The intracapsular cataract operation in immature cataract. Wm. A. Fisher.

*4. Two objections to this operation are, first, the need of an experienced assistant, and, second, the great danger of loss of vitreous. He and Col. Smith think that an assistant can be trained in a comparatively short space of time to successfully care for the lids with Fisher's double lid hook. It is not difficult to become familiar with this hook, holding the lid away from the eye during the incision and iridectomy as well as while the lens is being expelled; also during the toilet. "There are only two positions in which the lid should be held, and they should be thoroughly mastered by both operator and assistant." He has not used an eye speculum in the cataract operation for ten years. Only experience can tell how much pressure to use for expelling the lens, enough to keep the corneal wound full of lens, otherwise vitreous will escape. The partially expelled lens hanging in the wound is extracted with the lens hook. In the toilet the patient usually looks up, or will upon request; this aids replacement of the iris. It is dangerous for the patient to look down after the incision is made. The iris is tucked back into the edges of the corneal wound with the Smith spatula. If the lens does not present when the operator thinks he has made enough pressure he can cut the capsule with cystotome or capsule forceps and deliver in the old method with the new technique. Fisher's capsule forceps can be introduced without having the patient look down. He makes the intracapsular operation in immature cataracts, "as soon as the patient is unable to attend to his duties. At this time the lens can be as easily removed as later and the patient will be in better condition."

Fisher urged that before removing a lens in its capsule the Smith technique be mastered and used in one's old operation.

Discussion. Derrick T. Vail extracts in the capsule whenever possible; has abandoned the old operation. Smith's incision, "the best ever

devised," is like an angle hinge to a trap door, the incision opens like the jaws of a snake. Puncture the cornea at right angles to the limbus; the narrow blade is then turned flat in the plane of the iris and passed slowly through the chamber; on emerging the edge is turned up again to come out at nearly right angles to the limbus, and is then turned flat so that the edge, staying just within the cornea, severs it from the limbus with one clean forward sweep. Thus Smith can cause an eye to disgorge a large lens through an apparently small incision with a minimum strain.

NORTH AMERICAN JOURNAL OF HOMŒOPATHY. June.

5. Gradually losing sight. John L. Moffat.

NEW YORK STATE JOURNAL OF MEDICINE. June.

*II. Influence of diet upon the growth and recurrence of adenoids. Frank van der Bogert.

*II. The author was led to this study by the almost universal association of digestive disturbances with adenoid growths, and the persistence of the digestive symptoms and intestinal toxemia after removal of the growths.

THE JOURNAL OF THE AMERICAN MEDICAL EDITORS' ASSOCIATION, June.

*4. Science in personal journalism. T. D. Crothers.

*5. Medical journalism from a disinterested standpoint. Albert E. Sterne.

*6. Some ways in which this society can exert influence. John L. Moffat.

*4. The value of a journal—Classes of readers—Classes of journals—Personal journalism that is ideal—Too much machine writing—Practical medicine widening every year—Plea for a personal journalism.

*5. Reasons for existence of medical journals—Classes of medical journals—Certain journals needed—Does the medical press meet its duty? Conclusion.

*6. Advantages of editorial association—Medical editors have an educational responsibility—Suggestions: Use small caps for the D. signifying diopter, when indicating the dexter or sinister eye or ear,

and for the ante- and post-meridian hours. The official abbreviation of gramme is g. (lower case is better); mm. for millimeter, but c.c. for cubic centimeter. Better spell gramme the French way habitually because when written carelessly gram might be mistaken for grain. Substitute the correct and scholarly word astigmia for astigmatism, and astigmatic for astigmatic. Rectify the disgraceful and erroneous use of hemeralopia and nyctalopia; the syllable *al* in each of these terms is derived from the Greek *alaos*, blind, hence hemeralopia is properly day blindness (day-blind-eye) and nyctalopia is properly night blindness (poor vision in poor light).

SOCIETIES.

AMERICAN HOMŒOPATHIC OPHTHALMOLOGICAL, OTOLOGICAL, AND LARYNGOLOGICAL SOCIETY.

NEW OFFICERS.

President—Dean W. Myers, Ann Arbor, Mich.

1st Vice-President—M. A. Barndt, Milwaukee, Wis.

2d Vice-President—Frederick Carlton Sage, Waterloo, Ia.

Secretary—Ira O. Denman, Toledo, O.

Treasurer—William M. Muncy, Providence, R. I.

Necrologist—Richard H. Street, Chicago, Ill.

Censors—H. B. Bryson, M. W. Conrow, Alfred Lewy, William McLean, H. Wells Woodward.

COMMITTEE ON ORIGINAL INVESTIGATION.

I. O. Denman, G. W. McDowell, W. H. Phillips.

The following members, we hear, are among the Fellows of the American College of Surgeons:

M. A. Barndt, Milwaukee, Wis.

H. P. Bellows, Boston, Mass.

E. J. Bissell, Rochester, N. Y.

F. W. Colburn, Boston, Mass.

R. S. Copeland, New York.

C. G. Fellows, Chicago, Ill.

E. J. George, Chicago, Ill.

G. D. Hallett, New York.

Burton Haseltine, Chicago, Ill.

C. H. Helfrich, New York.

G. M. McBean, Chicago, Ill.

G. W. McDowell, New York.

A. B. Norton, New York.

J. M. Patterson, Kansas City, Mo.

R. G. Reed, Cincinnati, O.

G. B. Rice, Boston, Mass.

F. G. Ritchie, New York.

H. D. Schenck, Brooklyn, N. Y.

A. G. Warner, Brooklyn, N. Y.

D. W. Wells, Boston, Mass.

Harold Wilson, Detroit, Mich.

BOOK REVIEWS.

THE FIVE SENSES. By EMANUEL SWEDENBORG. Translated from the Latin by ENOCH S. PRICE, A. M. 338 pages, 9¾x6½x1". Philadelphia. Swedenborg Scientific Association. 1914.

This is the first draft of a treatise intended as part of the Animal Kingdom series, parts of which were elaborated by the author and published as *The Animal Kingdom*, Part III. The present volume was written in 1744, published in Latin in 1848, and now appears for the first time as an English book, although for a number of years installments ran in the pages of *New Philosophy*.

This insight into the science of 170 years ago is very interesting. The mental attitude of the scientist of that day is very different from that of today, but bearing this in mind as well as that the laws of optics were not then developed and that the microscopes were crude and feeble one must admire the clear and logical train of thought and the glimpses of truth as we now know it.

First comes a prologue in which he writes:

" . . . we shall study and investigate analytically the organs of the senses, then the cerebrum, the cerebellum and their two appendages or medullas; these conduct us to the entrance hall to the senses and interior lives, wherefore to the knowledge of our mind and soul; . . ."

Then consecutively are considered: The common trunks of the carotids; Sense in general; Smell; The ear and the sense of hearing—external ear, cavity of the drum of the internal ear and the Eustachian tube; the ear, the cochlea; the eye and sight—light and colors, colors, the external parts of the eye, the tunics of the eye (albugineous, sclerotic, cornea, choroid, uvea, iris), on the humors of the eye and on the retina, the humors and sight; Epilogue concerning the senses or sensation in general; The sense of taste on the tongue. Experience; The sense of touch or the cuticle's experience—analysis, the cuticles in particular, the adipose membrane.

A few quotations will help us appreciate the man—do not forget that this was written 170 years ago. "Sensations ascend, the determinations of the will descend. . . . Light can not have causes of origin different from those of sound, for it shoots forth from its own centers as does sound; wherefore the one can be examined from the other. The difference is one of grossness. The one is a modification of the air, the other of the ether. That light is of the ether or purer atmosphere, appears from the light in the vacuum of an air pump, and in other places where there is no air. . . . In the sun is a kind of animation, which perpetually drives off the circumfluent ether and thus urges it into a certain local motion and consequently into modification. . . . The ethereal atmosphere is the cause of sight. . . . Its

parts are more elastic than those of air. . . . There must be differences of light or of general modification in order that images may appear with their form. . . . Light must arise from some subject which being moved sets up a modification of the ether. . . . There is a reflection from every part, from which are the images of objects. . . . Whiteness repels rays of light, every other color absorbs some part. . . . Light and colors are active forces of which pressure is the conatus. . . . Colors are variegated according to the reflection of light by the particles of the more simple composition . . . it is required that the form of the reflecting particles be variously spherical, angular, concave, etc. Thence colors are conditioned according to the forms or figures of the particles, thus of the smallest thing. . . . The corpuscular doctrine is required for the examination of colors. . . . The pupil is opened as the sight wishes to be sharper or duller; wherefore according to the intention and desires of the mind. In this relation the crystalline lens is brought forward or pushed back. The pupil is dilated or contracted according to the quantities of light . . . according to distances, according to opposed magnitudes . . . according to shadows. . . . Among the uses of the aqueous are that the uvea, pupil and crystalline lens may be freely moved as though in their own atmosphere. (He largely follows, and quotes, Winslow in his anatomy of the eye.) The crystalline humor or lens inverts the ray in an orderly way so that what flows in from the right may flow into the retina at the left and vice versa. This in order that it may adapt the general state of light and shade in the vitreous humor, and it is thus the organ for conserving that state. . . . The vitreous humor arranges the lens, wherefore the lens is situated in a fold of the vitreous and arachnoid membrane, so that it may obey every mutation of its states. . . . The crystalline humor is vibratile according to all general mutations of the state of the eye; . . . a tunic of the vitreous humor surrounds it and at the same time a reticular tunic or web of the retina . . . the uvea acts upon the lens by the ciliary ligament, wherefore by its own fibers, according to the external state of light and shade. Thence the affection returns immediately to the brain, and at the same time the affection returns instantly into the retina and the crystalline humor, which retina and crystalline humor concur to induce a change of state immediately upon the lens, as in the other sensories. . . . It seems that the lens ought to consist of plates, and that the plates ought to be separated from each other by a thin fluid. . . . The retina exists in order that it may receive all images and rays distinctly which are projected through the crystalline lens and the vitreous humor, that . . . through the fibers of the optic nerve it may refer them to the common sensory or the brain, where similar images may be received as in the rest of the sensories. Its purest organic forms, which can not be distinguished by the microscope, receive distinctly every variation or color of light and shade. . . . That these forms

are suitable for the modifications of the ether, as the cochlea is for the modification of the air, is indubitable. . . . It is evident that the first origins of the optic nerves appear in the anterior ventricles, where they are called the thalami of the optic nerves, proximately under the corpora striata, where they proceed into the sinus bombycinus and thence are reflected through the medullary substance which Vieusens calls the middle region of the oval center. But still it can appear that those fibers derive their origin from the cerebrum and indeed not far from the umbones where the cortical beginnings are in their greatest expansion. . . . This must be confessed, that they communicate with all the medulla of the whole brain."

ANATOMY AND PHYSIOLOGY OF THE EYE AND ITS APPENDAGES. By JOHN WELSH CROSKEY, M. D., Ophthalmic Surgeon to the Philadelphia General Hospital. Published by Smith-Edwards Co., 129 N. 12th Street, Philadelphia. Paper. Two colored plates and 18 pages, 8¾x6".

A very clear and concise exposition of the subject, an outgrowth of instruction given during the past ten years to students and nurses. Plate 1 is a vertical longitudinal section of the eye; plate 22 shows the ball and muscles of the orbit.

A MESSAGE OF HEALTH. By RUSSEL C. MARKHAM, M. D., Marquette, Mich. Cloth, 123 pages, 8x5¼x1½", 75 cents, net. Philadelphia. Boericke & Tafel. 1914.

This little book, addressed to parents and housewives, treats simply of blood making, food values, balanced meals—with some simple recipes (spelled receipts) and their food values—how to estimate individual calory requirements (in his effort to be simple the author has not gone into this enough), "the two sides of life," the law of suggestion and the conquest of fear or worry. An excellent practical combination of science, physiology, Christianity and New Thought without losing balance. In the earlier part of the book the calory value of the usual foods is given in a practical manner; not only referred to the ounce but also indicated as "a slice" of bread or toast, a cupful, etc. This is not definite enough, the size and thickness of the bread should be given and also whether home-made or baker's bread, whether with or without the crust as so much toast has the crust cut off. We all know that bread varies in weight and dimensions. Another criticism is that no mention of or allusion is made to the salts; these are an essential element of our food. Binding, topography, etc., are up to this well known firm's usual standard.

The Journal of Ophthalmology, Otology and Laryngology

Vol. XX

Lancaster, Pa., and New York, August, 1914

No. 8

EDITORIAL.

FAREWELL.

WITH the January, 1901, number the writer took over this Journal from Charles Deady, the successor of Dr. George S. Norton who had founded it in 1889. From that day to this an unexpectedly large number of unsolicited letters have been received from time to time expressing flattering appreciation of our efforts to maintain and surpass the standard set by our predecessors, among whom should be mentioned Dr. Arthur B. Norton and his able co-editors of the *Homœopathic Eye, Ear and Throat Journal*. The latter publication, as most of our readers know, was merged with this Journal in 1911 after four years of management by Drs. Palmer and Moffat.

Now Dr. Palmer, the owner, is obliged by poor health to relinquish the Journal and its management, and Dr. Moffat at last feels editorial work so burdensome that he takes this occasion to lay it down.

To our contributors, to those who have made the Journal what it is, we say farewell with regret and sincere gratitude. Without your support all our efforts would have been in vain. We are proud of your papers, which have been the envy of other journals. As editors we bid you farewell but will ever be your appreciative readers, and the warm friendships formed and cultivated through the Journal will continue, we trust, among the treasures of our life.

Perhaps the feature which most distinguishes this management from its predecessors is the editorial page. Some at least of our editorials have elicited commendation and it is our modest hope that our long advocacy of the substitution of the more scholarly term *astigmia* for astigmatism has borne some fruit.

We earnestly urge upon our successors persistent and energetic efforts to have the proper meaning restored to hemeralopia and nyctalopia.

JOHN L. MOFFAT.

ADIEU.

DEAR readers, friends, subscribers and contributors, one and all. My colleague editor, Dr. Moffat, has so ably and broadly paid you a benefiting warm farewell, that very little remains for me to say. Yet I must express my personal appreciation of and gratitude for the hearty support of you all.

The position of editor and manager of a medical periodical carries with it many pleasures and opportunities for broadening one's acquaintance, knowledge, and experience, through coming in correspondence or personal acquaintance with some of the leading authorities in both schools of medicine. At the same time there are periods of genuine hard work, but with the loyal support that has been accorded by our confreres we believe the pleasure far outweighs the burdens.

As we drop the editorial mantle and our successors assume the same we wish them success and also feel assured that they will achieve it.

We trust that they will raise the standard of the Journal still higher as we and our predecessors have endeavored to do during the periods of stewardships.

Fraternally yours,

A. WORRALL PALMER.

ANNOUNCEMENT.

AT last arrangements have been concluded for the disposal of this journal which, with the next issue, will appear under a new management. This (August) issue has been held in order that the change may be here promulgated.

Dr. J. R. McCleary, of Cincinnati, O., will be proprietor and business manager, with Dr. George W. Mackenzie, of Philadelphia, Penn., editor.

No two better men could be found in the whole country and, so far as in them lies, a bright future is ensured. The new regime will be enriched with new ideas and have the American Homœopathic Ophthalmological, Otological and Laryngological Society back of it, but individual papers as well as advertisements are essential.

Dr. Mackenzie's reputation will attract first-class papers, and Dr. McCleary's business astuteness will multiply the advertisements. It therefore is "up to" the profession to afford a hearty support by contributing, subscribing and advertising.

This we earnestly bespeak for our friends who are altruistically assuming this burden in the cause of medicine and of our school.

PROMPT CURETTING OF MORBID TISSUE IN ULCERATION OCCURRING DURING KERATITIS.

HENRY W. CHAMPLIN, M. D.,

Towanda, Penn.

THE retention of a slough of dead tissue—and infected and infecting exudations—can be only a menace to the contiguous vital tissues, and an inexcusable impediment to efficient cleansing and antiseptic treatment. It may be nature's method, but it is like the discarded poultice.

I was led to my present treatment of corneal ulcers by my experience in chronic ulcers, vaccination and other infected wounds. I curette all old granulations and boggy tissues of low vitality, freshen the skin border, and thoroughly cleanse the surrounding area of all dusting powder and grease—then healing was prompt and complete in all instances.

Possibly I do not scrape out a corneal ulcer more promptly than do other eye men, but I clean out the dead tissue and freshen the edges much earlier than was formerly my custom. As soon as it is there is the time to do it. The blood vessels of the pannus are interrupted in their continuity and the surface made clean and fresh for antiseptic and stimulating treatment.

I am not telling what *the* treatment of corneal ulcer is, but rather *my* treatment. It is quite routine, I admit. I use bichloride of mercury, 1 to 5,000 or 1 to 4,000 (rather strong) as an antiseptic—very important, too, I believe. Atropin and dionin are used, of course. Yellow oxide and iodosyl come in later. With the field clear and clean the treatment has the best chance.

I have been surprised to note that I do not get as much opacity as formerly. Rarely I find it necessary in certain malign cases to use the electro-cautery. I never use strong carbolic acid or formalin, preferring the red hot cautery point second to curetting.

Among the general practitioners in my town keratitis is known as "Pink eye." It occasionally happens that a person is sent to me for a differential diagnosis between pink eye and conjunctivitis, with the instruction that if it is conjunctivitis the patient must return to the doctor for treatment, but if it is pink eye I am welcome to the case. At first my diagnoses were not understood as I had not learned the

popular understanding of pink eye. Later when cases of keratitis came to me saying that the family physicians were treating them for pink eye I learned to adjust myself to the popular diagnoses and nomenclature.

Our keratitis patients often come a considerable distance to see us; the disease is long lasting at best and it occurs mostly among those in very humble circumstances. Several under treatment at this writing are working men who must lose one day for every visit, and twice as much more for expense and fee. Indeed, such cases should not be at work at all, and thereby must lose all income. Besides the reasons always prevailing for a speedy cure in all cases, the foregoing must be especially considered in our average keratitis patient. So if prompt cleansing out, freshening and stimulating a corneal ulcer hasten a cure in this naturally long-lingering ailment it is our duty to give our patients the benefit of it.

Then, too, for our own credit we should hasten a cure with best possible ultimate results. The usual prolonged course of keratitis with bad after effects is liable to be detrimental to our professional reputation. Without some variation in the treatment from time to time it is likely to become very monotonous. If we can be doing something, especially something that is effective for good, we inspire our patients with hope and confidence and enhance our professional interests.

DISCUSSION.

DR. W. B. KREIDER, Goshen, Indiana: The pathology of the cornea has yielded fruitful knowledge in the study of destructive tissue. Virchow's theory stood in prominence, and Michnikoff's experiments on the cornea have founded his famous theory concerning phagocytosis. We may compare the function of phagocytosis as an invading army led to the microbic invasion; the latter presenting the evil process of destruction, causing morbid tissue and later ulceration if not arrested.

This is also a process of stasis and infiltration. Phagocytosis invades the process, carrying new cell life through circulatory stimulation. The battle is on between the process of tearing down and building up; who wins. The essayist employs the implement of repair through the manipulation of curettement. We offer no criticism to the principle involved; it seems greatly a matter of method which we employ, as few of us are willing to stand by and see so important an organ as the cornea lose its function without springing to its assistance and speedily arrest its destruction. We may take it as granted

that all ulcerations occurring during keratitis are an infection by one or more of the various pathogenic microbes.

The indications for treatment are obvious and are in accord with the outline of the essayist. Our armamentarium in this respect are legion. The first step in this direction, whatever the future treatment may consist in, is the cleaning out of the ulcer as delineated by the essayist. We may then employ the aid of the therapeutic lamp and the various forms of cautery. In my practice I have used trichloroacetic acid 10 to 20 per cent. solution. Very useful in arresting the ulcerative process after curettement.

The following R. by Doctor Darier is used where there is much vascularity:

R. Cocain hydrochlorat0.10 g.
 Adrenalin (1-1000 solution)2.00 c.c.
 Sol. Mercuri cyanid. (1-1500).....8.00 c.c.

M.—Apply one drop locally every 2 to 4 hours.

The essayist's position relative to the general practitioner is unique in reference to diagnosis of eye diseases. Those of our profession not capable of diagnosis cannot be expected to give the patient the best treatment, but we must be considerate to the family doctor, and rather show him the right way than reprove his error. Only last evening a patient presented with cilia all pulled out by one physician, and another one said he thought he saw a corneal ulcer, but on examination it proved to be a severe iritis. An epidemic of pink eye with a personal attack gave the writer a good test as to its nature. The distinctive feature of pink eye is its absence of corneal invasion; it is microbic from an external infection creative of abundant pus secretion, the converse of keratitis which is often constitutional, or may be traumatic but does not throw off free pus. Pink eye does not cause blindness or permanent impaired vision, but leaves the upper lid heavy and stiff almost to the extent of drooping on close application of the eyes. This follows as a sequela and may last for weeks. The loss of vision from keratitis (ulcerative) is from loss of tissue and repair leaving opacities. Hence the indications for treatment as outlined by the essayist promise the best for the patient and most speedy recovery of the affected eye.

Prevention of Hæmorrhage in Tonsillectomy. Free the tonsils anteriorly, superiorly and posteriorly, then with a light curved hæmostat (Kelly's) passed behind the capsule from above clamp the true tonsillar artery in the aponeurosis between the tonsil and the superior constrictor muscle. The hæmostat is then held by an assistant while the tonsil is further separated and the snare applied.—J. J. Kyle, *J. of Oph. and Oto-L.*, July.

OBSERVATION AS TO THE EFFECT OF TELEPHONE OPERATING UPON THE EYES.

LEROY THOMPSON, M. D.,

Chicago, Ill.

THE subject of occupational disease is one of the most important which we have before us in the present age and the following report is presented with the hope that this society will get an unbiased picture of telephone operating so far as it relates to the health of the telephone operator herself. For several years we have been reading about the "safety first" movement, compensation laws and corporation medicine but unfortunately up to within the past four years no great advance has been made in the real work of disease prevention as well as cure in most companies.

The Bell Telephone Company has always shown an interest in the welfare of its employees; long before legislation accomplished anything regarding the rights of the wage earner it made plans and carried them out for the betterment of the health of its working masses. The Chicago Telephone Company, with whom I have been associated for nine years, typifies the great advance of the whole Bell system, medically as well as in other lines. Within the past 18 months a large comprehensive sick benefit pension and insurance plan has been organized under the medical supervision of Dr. Alva H. Doty, former Health Commissioner of the Port of New York. I will not take your time in giving you the details of this organization, except so far as it relates to the essayist's subject, but I cannot help but remark that nothing but the latest and best in everything has been taken into consideration, gleaned from experience and investigation in Europe and America.

Many of the medical profession are ever ready to criticize a corporation without any definite knowledge to back up their assertions and one of my main reasons for writing on this subject is the appearance from time to time in the public press—and I am sorry to say in medical journals also—which do not give the true status of the telephone operator and her health. I will read you one published recently:

"There are in the United States about 125,000 telephone girls, whose average term of service is three years or less. The working hours are about eight per day, the average number of calls is about

140 per hour, running, 'at the peak' to 225 or more. The operator sits facing a switch-board which is covered with numbers, each number having a small signal light that flashes on and off as the call is completed. When the person raises his receiver a light flashes on the switch-board at 'central;' this light continues to burn until the operator 'plugs' the number and receives the call. She then plugs the number called for and this light burns until the called person raises his receiver from the hook. When the receivers are finally replaced on the hooks, both lights flash and burn until the operator removes the connecting plugs. To complete one call means four flashes of light. As the average number of calls are 140 per hour, with 225 or more during the rush hours, the operator's eyes are exposed to from 500 to 1,000 flashes of light every hour, resulting in fatigue to the eyes, to say nothing of the mental and physical strain under which the operator constantly works. The Bell System in 1911 spent \$720,953 for rest-rooms and lunch-rooms for the operators, and it has secured sufficient air-space and good illumination, yet, although only young and healthy girls are selected, the average length of service does not exceed three years. The symptoms of eye-strain which the girls develop are headache, dullness, indigestion, exhaustion, nerve strain, insomnia, colds, and so forth. The two or three short years of telephone work possible to the girls, as well as nine-tenths of all their suffering is probably due to the constant near-range eyework, without proper protection for the eyes."

Another article published in the "Good Housekeeping Magazine" is too lengthy to read but makes practically the same assertions.

As Oculist and Aurist for the Chicago Telephone Company and Chief Physician for the Employees' Benefit Association, having practically all cases of sickness among the employees come under my observation, I have had an unusual opportunity to investigate occupational disease so far as it relates to telephone employees, with special reference to the eye, and would severely criticize the above article by quoting some statistics.

From April 1, 1909, until October 31, 1909, there were 2 cases of eye trouble among 2,370 employees (operators and supervisors). Of these 2 cases one was due to eye strain and the other to abscess. The maximum time away from work was 10 days, the minimum time was 7 days and the average time was $8\frac{1}{2}$ days.

From November 1, 1909, to October 31, 1910, there were 16 cases of

eye trouble among 3,038 employees (operators and supervisors). Of these 16 cases 4 were due to eye strain, 4 to conjunctivitis, 1 to keratitis, 2 to ulcer of cornea, 1 to infection of the lid, 1 to opacity of cornea, 2 to astigmatia, and 1 to congestion of eyes. The maximum time away from work was 63 days, the minimum time was 5 days and the average time was 10 days.

From November 1, 1910, to October 31, 1911, there were 12 cases of eye trouble among 3,391 employees (operators and supervisors). Of these 12 cases 6 were due to eye strain, 2 to conjunctivitis, 1 to iritis, 1 to congestion of eyes, 1 to granulated eye lids, 1 to chalazion. The maximum time away from work was 43 days, the minimum time was 6 days and the average time was 6 days.

From November 1, 1911, to October 31, 1912, there were 18 cases of eye trouble among 3,895 employees (operators and supervisors). Of these 18 cases, 7 were due to eye strain, 2 to conjunctivitis, 1 to infection of the lid, 1 to chalazion, 1 to pink eye, 2 to inflammation, 1 to corneal erosion and 3 to sty. The maximum time away from work was 49 days, the minimum time was 10 days and average time 8 days.

From November 1, 1912, to October 31, 1913, there were 38 cases of eye trouble among 3,073 employees (operators and supervisors). Of these 38 cases, 9 were due to eye strain, 1 to abscess, 5 to conjunctivitis, 2 to iritis, 2 to keratitis, 2 to ulcer, 11 to infection of the lid, 1 to opacity of cornea, 1 to hyalitis, 2 to chalazion, 2 to inflammation, 1 to sty, and 1 to optic neuritis. The maximum time away from work was 136 days, the minimum time was 11 days and the average time 17 days.

From November 1, 1913, to February 1, 1914, there were 4 cases due to eye trouble among 2,798 employees (operators and supervisors). Of these 4 cases 1 was due to eye strain, 1 to abscess and 2 to conjunctivitis. The maximum time away from work was 21 days and the minimum time 11 days, the average time was 12 days.

To sum it up we only had 90 cases of eye trouble from April 1, 1909, to February 1, 1914. Does this look as though telephone operating was injurious to the eyes?

Before a girl is taken into the employ of the Telephone Company she is given a physical examination and her eyes are examined so far as practical vision is concerned, viz.:—the test requires that she read letters with each eye separately equal to J. 5, at arm's length. Any

defects of speech are noticed and the hearing tested, anyone below normal being rejected. Glasses do not exclude if vision is J. 5 with them on. Of course this keeps out many who would otherwise succumb to eye trouble of one kind or another, but it is impossible to eliminate everyone who suffers only a slight abnormality or latent ametropia.

I think the efficiency of such an examination is aptly illustrated by what I saw on a visit to an exchange the other day: one group of 27 girls, all active healthy looking specimens of young womanhood and not one wearing glasses; another group of 18 and only 3 wearing glasses. Go into any large office and look over the clerical force and, as you all know, the percentage of those who are forced to seek the assistance of glasses will be high.

In a special study made recently from 3 of our largest exchanges, employing 707 girls, only 71 were found to be in a physical condition which necessitated a complete physical examination, and of the 71 there were only 2 taken off duty as being too ill to work. Dr. John McClellan, Traffic Department Special Physician, found the following conditions present in the 71 cases: general health 20, hygienic advice needed; chalazion 1, incipient Graves' disease 1, simple goiter 7, possible Graves' disease 1, organic lesion 1, nervousness 2, acne 3, arterial sclerosis 1, hysteria 1, anemia 9, hernia 1, throat 1, possible tuberculosis 22—5 definitely tubercular out of the 22 suspected.

The telephone operator sits facing the switch-board with her face approximately 16 inches away, measurement taken at the level of the eye. The maximum distance at which she uses her eye when reaching to complete a call or pick it up is 29 inches. When answering a call or completing a connection an experienced operator does not have to concentrate on every number but knows intuitively where the particular numbers are to be found.

Compare the work done by type-setters, book-keepers, stenographers, and draftsmen and you can readily see that a telephone operator has as much relaxation and sometimes more than any of the others who continually apply themselves to their given occupation, which is all practically at the same distance from the eye.

The signal lamps, the strongest of which is less than one candle power, have a protecting cover, or opal as it is called, made of semi-transparent glass measuring nine millimeters across at the greatest diameter and six millimeters thick; this is made in three colors, white,

red and green. *These opals amply protect the eye from ultraviolet, chemical or dazzling rays.*

The average time any of these lamps is lighted is three and one-fifth seconds and it is not necessary that the operator look intently even that long at any one light. The arrangement of numbers, in groups of five with plain lettering and dividing marks, makes the finding of the numbers by the operator almost intuitive after she has worked for a few days. In other words she does not have to look intently to read every number before a connection is completed. The illumination of her work is as nearly perfect as engineering and science can make it, careful provision being made to protect the eyes from any direct rays and yet afford ample light to see the numbers. Every operator has a relief of fifteen minutes for complete relaxation every two hours and one-half hour to an hour for her lunch which is provided in the exchange free of charge.

Dr. George M. Gould, the author of "Eye Strain and Occupational Disease," says in part:—

"The intolerable fact that stares at one from every page of the United States report concerning telephone operators is that not the slightest hint is given that the two or three short years of telephone labor possible to the girls and nine-tenths of all their *awful suffering* and *wrecking* is largely due to constant near-range eye work without scientific spectacles. No blame attached to the companies. The fault is the great indifference to, or ignorance of the nature and consequence of eye strain."

In reading the United States Government report I cannot find where any original scientific research work has been done, but practically all their preposterous conclusions are based on the Canadian Parliamentary report and more or less ignoring its final conclusions.

The integrity of the doctors who gave their expert opinion is not doubted for one moment but nearly all their conclusions were drawn from observation of a few operators who happened to come to them in their private practice for treatment and whose subjective statements were accepted as facts. What about the thousands who do not have to consult a doctor about their health?

I will quote a few passages from this report:

Reaching upward injuriously affects the nervous system. (Cannot be proven.)

Nervous debility. (Found in all indoor occupations.)

Faces showed indications of weakness on account of strenuous employment. (Would like to show you what a fine looking lot of operators we have in Chicago.)

Eye, ear and throat all strained. (Not proven.)

Nervous hysteria. (Found in all occupations where girls are employed.)

Constitutional and nervous system all injured. (Not proven.)

Wearing down of the nervous system.

Optic and auditory nerves strained. (Not proven.)

Debilitating to the nervous system. (Not more than any other occupation.)

Girls burn up more energy than they produce.

Most exhaustion of all occupations. (Absolutely No.)

Injurious to eyesight. (Note my statistics.)

Produces headaches looking at holes.

Prevents rest.

Cannot sleep when they go home.

Couldn't eat well. (Look at lunch bills expenses.)

Reaching is hard and injurious.

Eye trouble, headaches and nervous troubles.

Affects the eyes and through the eyes the general system.

The most trying of occupations.

Throat, chest and nervous troubles and headache.

Nervous prostration and nervous breakdown..

After three years unable to perform the ordinary occupations of womanhood satisfactorily. (If that were true they would not recommend relatives to become employees.)

Fainting.

Strain on nervous system through eye and ear.

Nervous exhaustion.

Strain upon the optic nerve and the muscles of the eyes.

Difficulty in fitting the plug in; they seemed to scrutinize it closely.

The nerves governing the extra-ocular muscles which focus the eye upon the object looked at are the nerves where the greatest part of strain comes.

Reaching added to physical fatigue.

When they leave they turn out badly in their domestic relations.

It is this sort of thing that is laying the foundation of the asylum.

Not so much physical as mental and nervous, and exhaustion of nervous energy, a depletion of nervous force.

The reason for such a marked increase in insanity and nervous prostration all over the country.

After five years she would be disqualified to become a wife or mother.

On future generations the effect will be epilepsy and all sorts of nervous diseases.

Dr. Gould says of the above: "In other words brave statements of fact and end-results with no recognition of the single cause, ametropia or eye-strain from lack of scientific spectacles."

I cannot but feel that such absurd statements are not worth consideration of any kind but call your attention to the fact that our attendance records show the following:—One girl had never been absent for sickness in 8 years, four in 4 years, seven in 3 years, 11 in 2 years and four hundred and twenty-five for the past year. This out of a force of over 4,000 girls.

The apparent short length of service of a telephone operator is due to one thing, *Marriage*, and they have healthy families as well as happy domestic lives in spite of the statements quoted from our Canadian report and Dr. Gould.

The English Parliamentary Report of the Committee of Medical Officers concerning the conditions of working of telephones does not say that the neurasthenia is caused by the work, but that this with the anæmia and neurotic tendencies, were brought to it by the worker. Errors of refraction, it is stated, became manifest by the nature of the work. The medical officers are advised to exclude candidates showing pronounced signs of nervous instability or anæmia, and to insure that candidates suffering from hypermetropia and astigmatism have those defects corrected by proper glasses. The Committee found that 142 out of 248 operators examined had had their health impaired by the nerve and physical strain. On a busy morning there is hysteria, as the girls get worked up, and the words "shivering and panting," "sobbing and crying" are used. "One girl fainted four or five times running." Another said, "Glow lamps are very trying to our eyes." One thinks "sight is affected by the boards being so close." Miss ——— was on sick leave for three weeks from neuritis. "Switch-boards are so close, great strain to eyes" testifies an operator. "Eczema of arm and abscess of ear." Such are some of the many items noted. The average annual sick leave absences steadily grow three-fold in ten years. In one year the diseases listed in the sick room pa-

tients were these in the following order:—Faintness, headache, indisposition, biliousness, hysteria, neuralgia, colds, miscellaneous. The disorders most frequently mentioned and most emphasized amongst the telephonists are nervous affections, digestive disorders, anæmia, nervousness, neurasthenia, migraine, headaches, vertigo, palpitation, etc., precisely those found in thousands of patients and for 25 years demonstrated to be due to eye strain.

In Norway the report is that among 390 women there were in one year 11,621 days of sick absence, many because of diseases (now recognized as due to eye strain), distributed as follows:—

Bronchitis, laryngitis, influenza, etc.	2,422
Neurasthenia, cephalagia, etc.	1,990
Anæmia, circulatory and blood trouble	1,705
Gastritis, enteritis, etc.	2,324
Affections of sight	651

the average time away per year.

According to the English report, in Belgium the physical conditions required for admission as telephonist are peculiarly interesting because they indicate some beginning glimmerings of recognition of truths concerning eye strain. The principle duty of the Belgian examiner seems to be long, exact and useless “verification of the chromatic sense by Prof. Holmgren’s method. Correct chromatic sense is not required of telephonists.” However “normal clearness of vision” is the chief requirement and “the test is applied to each eye” and “spectacles may be used in the tests.” “A myopia of 6 D may at most be allowed” if the visual acuteness is good, and hyperopic lenses of any strength are permitted on the same conditions.

The report is a carefully guarded one, by silence or caution refraining as much as possible from crediting illness to eye strain, but the drawing truth looks out at one through the lines. Some other callings are certainly as health wrecking as those of the telephonists. It is gratifying to know that a host of nervous and digestive disorders may soon be recognized as originating in eye strain.”

Report of the Committee of Medical Officers appointed to inquire into the conditions of working of telephonists, 1911, by the Canadian Government.

The experience of the 19 medical officers agreed in the main with our conclusions. They had no evidence of injury of any of the special

senses, they found that errors of refraction became manifest by the nature of the work, but that those errors were easily rectified. No serious or permanent injury from so-called shock had been noticed. Few complaints as to the gear had been made to them. No special observations were offered as to the age of entry. Anæmia and neurotic tendencies were emphasized as rendering applicants unsuitable for telephone work. Most of them had had case of neurasthenia but often they found the subject to be of poor stamina to start with and that there were other factors co-operating. A considerable number expressed the opinion that not more than eight hours' duty should be performed in one day, that over-time was most undesirable and that half an hour for dinner was too short a relief.

Eye strain. *Out of 248 operators examined 12 made special reference to visual difficulty.* On investigation each of these cases was found to have some error of refraction, which was remedied by lenses. A defect of vision which in ordinary life would probably remain latent and cause no ill-effects is likely to become manifest in the performance of telephonic work through the limitation of the range of vision by the proximity of the multiple.

It is advisable to emphasize the point that the work does not effect healthy eyes, but that it may make manifest the existence of errors of refraction. When the medical officers are examining candidates for the service they should give special attention to the possible presence of hypermetropia and astigmatia. Out of 248 operators examined 142 stated that their health had been impaired in some way.

Most of these women and girls would no doubt have found their health affected to some extent by any indoor occupation; but we think the contributory causes which accentuate the nerve and physical strain are as follows: (a) the telephonist is constantly using three special senses—sight, hearing and speech; (b) there is constant demand on her attention, accuracy is essential and she may have many calls in operation at the same moment; (c) the continual wearing of the head and breast gear; (d) the perpetual jumping up and down and reaching required.

Conclusion. My experience has been one of close association with the operators and supervisors for 9 years; my conclusions are based on that experience and not on a few patients who happened to be telephone operators needing medical assistance. Telephone operators are not subjected to as much eye strain as the average clerk. Conditions which are apt to be blamed on the occupation have been abso-

lutely proven to clear up after the eye condition was treated and glasses fitted where necessary, the operator continuing at the same occupation under exactly the same working conditions as before..

30 N. Michigan Boulevard.

DISCUSSION.

C. GURNEE FELLOWS: I am very glad to hear Dr. Thompson's paper because it gives us new light on the subject of occupational diseases. We have been educated to jump on everything a corporation does and to take it for granted that everything is wrong, but it looks as if a man who has had experience as an employe of this corporation and is now speaking from the standpoint of a specialist in our society should be able to give us data more valuable than any we have had up to the present time.

I read scientific articles in the journals from time to time which tell about the harm done by lights, colored glasses, reflections from mirrors and such things, and although they are scientific and plausible in their claims, I have had very little experience with any beneficial results following the suggestions contained in these papers.

In other words, irritation from light reflections and so forth are so many times cleared up not only by the wearing of glasses but also by the mechanical arrangement of desks, curtains and awnings, that I believe I am old fashioned enough to think there is a good deal of foolishness in ultra-scientific theories.

I have, of course, seen the statement that telephone operators are a particularly abused class and that their eyes suffer in consequence of the lights, but I have known a good deal of Dr. Thompson's work and have been led to believe as he does; and his paper certainly proves his contention.

Statistics, of course, are not often proof, but this running through of the reports of three or four years, with so few cases showing any particular trouble with the eyes, comes as near being proof as we need.

J. I. DOWLING: In the limited experience which I have had with telephone operators, it has not appeared that the eye and ear conditions from which they suffered were occasioned by their occupation, or dependent upon it. As in a similar number of other people, I have found muscular insufficiencies, refractive errors and inflammatory affections, but nothing peculiar to their occupation. Tinnitus and deafness were about as in other people.

LEROY THOMPSON: I feel encouraged by Dr. Dowling's remarks; they seem to be fair. In Chicago, and also elsewhere, I found many medical men inclined to regard the telephone companies, as well as other large corporations, as octopi that devour young girls. As a matter of fact, the officials of the telephone company are very willing to take intelligent advice and to act upon it, when it comes from either individuals or societies such as this. The company is anxious to do what it can for the eyes and general health of its employees.

OCCUPATIONAL DISEASES OF THE EYE.

WM. M. HILLIGAS, M. D.,

Philadelphia, Pa.

TODAY the trend of all progress is toward conservation, and in medicine that means prevention. Preventive medicine is really the highest realm of medicine, although we must know that prevention will eventually annihilate the medical profession. So, in the consideration of occupational diseases of the eye the prevention of disease is paramount.

The divisions of this subject may be classified as follows:

- (1) Diseases due to eye strain.
- (2) Diseases due to the entrance of poisons in the body, or into the eyes.
- (3) Diseases due to excessive heat and light.
- (4) Diseases due to injuries.

In the first class is nystagmus—an oscillation of the eyeballs, rotatory chiefly. This is due to a constant strain of the elevator muscles of the eyeball, and so may occur in several trades, but is mainly found in miners, especially in coal miners, about five per cent. of whom are disturbed by it. It is due to their constrained position during work, stooping or lying on their backs, combined with poor light. Resting the eyes by frequently turning them downward below the horizontal meridian, will relieve the condition; but it requires complete change of occupation to effect a cure.

Reflex symptoms, hardly to be called diseases, are so common as the result of eye strain due to errors of refraction and to muscular imbalance that it seems almost superfluous to enumerate them: headache, especially frontal and temporal, eyeache, blepharitis, conjunctivitis, styes, chalazia, chorea, minor epilepsy, neurasthenia, vertigo, nausea. These can justly be called occupational whether they occur during school life or later in life because they are due to improper use of the eyes added to existing tropias and phorias, and therefore preventable to a large degree.

Any occupation which requires prolonged use of the eyes, especially at the near point (such trades and occupations are multitudinous) may cause these reflex symptoms which would not have developed

had the patient been living on a farm, for instance, and only using the eyes for distant vision. The cure for these conditions is in fitting the eyes with proper lenses, or by exercise of the muscles with prisms, or even by operative measures on the muscles, but the prevention of these troubles is far more important.

A near-sighted person should not work at any trade requiring close application at the near point—such as engraving, proofreading, type-setting, watchmaking, silversmith—for fear of progressive myopia and, later, the destruction of sight.

The light in all offices should be so arranged as not to cause alternation of shadows and bright spots; gas light is preferable to electric light, and if the latter is used it should be properly shaded, green reflectors being the best, and arc light is preferable to incandescent light. The new white light produced by prismatic bars or holophanes is the best of all artificial methods of illumination. Daylight, of course, is preferable wherever possible.

The paper used in offices should not be glazed, and in all work requiring close application at the near point one should accustom himself to lift the eyes from his work at intervals and rest them by looking out of a window to a distance; this is more restful than merely closing the eyes.

And here, I think, we may properly discuss the problem of the eyes of school children. In most large cities we now have a fairly adequate supervision of the school children by physicians who periodically examine the eyes of all the scholars; if any gross errors of refraction are found such children are referred for treatment. I think it would be wise if all children should be rather thoroughly examined before admission. If pronounced hyperopia is found strong lenses should be advised at once to prevent strabismus, the development of which is nearly always due to the act of convergence in high degrees of hyperopia; if not corrected early, function is soon impaired in the squinting eye.

New York City has started a school for pronounced myopes, who are badly handicapped if taught under the same conditions as children with normal sight.

School children should use pen and ink instead of lead pencils, and the old slate and slate pencil should be forever discarded. The arrangement of the light in school rooms is of great importance, also the independent adjustments of the desk for each scholar. In order

to get sufficient light, there should be window space in proportion to floor space of one to five. Blackboard instruction should be used whenever feasible in preference to work at the near point, and there should be less study at home for the younger scholars.. Text books should not be printed on glazed paper, and the type should be sufficiently large—No. 10 type.

We come next to the consideration of the toxic amblyopias due to the inlet or absorption of poison in the body or the eye.

Dinitrobenzol, which is used in the manufacture of explosives that are used in mining, gets into the body through its vapor during grinding and mixing.

The fumes of bisulphide of carbon, which is used in making rubber, are poisonous, but this is less used than formerly; extreme heat is used instead in vulcanizing rubber.

The absorption of nicotin powder in tobacco factories has been the cause of the well known tobacco amblyopia; it is not necessary to use the weed to become poisoned by it.

Proper ventilation in the place of their manufacture or their use is the keynote in the prevention of these conditions.

Wood alcohol used in varnish, especially in brewers' vats, has caused some of the same dangerous symptoms such as are found in the severe amblyopias due to the use of this drug or poison in drinks.

The aniline dyes as used in some trades have caused poisonous symptoms in the eyes, and so has arsenic in paper hangers and painters.

There are over one hundred occupations in which lead is used and might cause lead poisoning, but this is especially found in plumbers and painters, and the eye symptoms are found only in chronic cases, never in acute lead poisoning, as they are due to a sclerosis of the arterial vessels. Lead may also cause a palsy of the ocular muscles.

These toxic amblyopias are usually a retrobulbar neuritis, or an optic neuritis or atrophy, and are very intractable to treatment.

When we learn that the temperature of a cast iron furnace is from 1800 to 2000 degrees F., and of molten steel 2700 to 2800 F., a Bessemer steel furnace 3000 to 3200 F., and that in electric welding the temperature goes as high as 7000 F., we can only wonder that the eyes of laborers in such trades are not more frequently affected. Silver burnishing comes under this head also. It is impossible to work safely near a forge or furnace with the temperature over 2000 F. and the dazzlingly bright lights produced by such molten metals, without

the protection of blue lenses. In electric welding the work is usually done with the operator looking through a screen of blue or red glass, three or four thicknesses.

The effect on the eyes of such heat and light is locally on the lids as superficial burns, the same on the conjunctiva and cornea, and less frequently there is permanent injury to the retina or optic nerve. I have seen severe granular conjunctivitis and its following keratitis as the results of the heat used in vulcanizing automobile tires.

Sudden transient blindness, especially hysterical, has often followed flashes of intense light from furnaces, and in electric power houses; real injury to the lens or retina may result.

Glassblowers seem to be especially subject to cataract due to heat so close to their eyes constantly.

X-ray operators in giving treatments usually protect their eyes with a lead glass screen, although claiming that there is no danger. Dr. Cassabian, of Philadelphia, who died a martyr to his x-ray work, had no ocular symptoms with his fatal dermatitis. However, in giving treatment to conditions near the eye the eye is protected, or should be, by lead foil or lead glass for fear of burns, although skiagraphers claim that the cornea will not burn any more quickly than the skin and so they take their photographs of the eye fearlessly.

The occupational diseases of the eye that are, after all, of most interest both from the standpoint of the social economist and from that of the oculist, are the injuries.

These injuries range from small particles on the cornea to penetrating wounds of the eyeball; in the latter class, even with the use of the electromagnet, the eye is so often useless or infected and a menace to the other eye by sympathetic ophthalmia that enucleation is necessary; therefore all attempts at more adequate protection should be warmly supported. It is estimated that about four per cent. of all cases of total blindness in the world are caused by sympathetic ophthalmia.

The character of these injuries varies from those produced by blunt blows—ecchymosis of lids; subconjunctival hæmorrhage; hæmorrhage into the orbit; orbital cellulitis; hæmorrhage in anterior or posterior chambers; rupture of eyeball or crystalline lens; dislocation of crystalline lens; traumatic cataract; iritis or irido-cyclitis; hæmorrhage in vitreous; detachment of retina; deep injuries to the retina or the optic nerve. Blows with sharp instruments may cause

cuts and lacerations of varying depths—penetration of eyeball, either with or without retention of the foreign body.

The trades in which these injuries are liable to happen especially, and do happen so frequently, are foundrymen, machinists, turners, borers, boilermakers, smiths, polishers, puddlers, casters, glassmakers, agricultural workers, in all the building trades, in quarrymen, laboratory workers, glassblowers, in dynamite factories, in mining and in railroad construction.

The most frequent injuries to the eyes in males, as shown by collected hospital records, are from steel or iron particles or pieces, at least fifty per cent., and about fifteen per cent. are from burns from metals. You can easily conjure from the foregoing list the multitude of chances for such injuries in all branches of iron and steel work.

The continuous dust and small particles in tool grinding and in using emery wheels cause conjunctivitis and keratitis, sometimes quite severe because the workers are exposed constantly; the large majority of these could be prevented by the compulsory wearing of protective glasses, large circular curved lenses, either plain or with the proper refractive correction of the laborer, or a large flat glass in front, with wire gauze around it.

The use of cheap tools and hammers is a frequent cause of injury, especially in chipping castings.

In brass turning, the brass particles seem even more poisonous to the cornea than iron or steel; copper is less so.

It is surprising how few wounds of the cornea caused by foreign bodies lodging there becomes septic when we consider the way many of these particles are removed at the shops without any attempt at asepsis, and the cornea is apparently so often severely gouged in vain efforts to remove them. Possibly the fact that these particles are so frequently hot sparks, or heated by friction, helps to make the wound aseptic by heat.

It would be wise for all shops to keep on hand a spud with an iridium-platinum point, which could readily be rendered sterile by passing through a flame and then dipping in alcohol. One of the largest steel companies in the United States has an iron-clad rule prohibiting the removal of foreign bodies from the eye by fellow employees.

Some protective measures that are in use, but not generally enough, are pneumatic fans at grinders' wheels or shields on grinding wheels,

circular saws, lathes and other forms of rapidly revolving machinery. Pneumatic chippers have reduced the chances of these injuries, and so has chipping against a screen, both in iron and stone works, which helps to protect the passerby and adjacent laborers, but the use of the eye protector should be compulsory. It is important that the cost of such protectors should be moderate, and the sight of the workman must not be interfered with, so that glass is, of course, out of the question in iron workers as it would get chipped and scarred, and mica clouded. One place keeps glass blocks ready to replace. Gauze wire can be used by stone cutters. Aluminum gauze wire which will not rust is probably the most serviceable. Let the frame fit the orbit closely, but the wire bulge forward to give free play.

The dangers from stonecutting are practically the same as in the metallic trades; dust and small particles all the time and large pieces of stone frequently. Screens and eye protectors help here also.

The frequency of burns from molten metal and sparks can be reduced by the same protectors.

Coal miners and quarry men are frequently injured by flying stones and by explosions.

Farmers in hedging and chaff cutting often get corneal injuries.

The lime burns of masons, plasterers and bricklayers must not be forgotten. These are not so much due to the heat of the lime, but are chemical burns followed by infiltration of insoluble calcium into the cornea and other tissues. Acid burns are not so dangerous, as the acids harden and contract the tissues.

The bursting of bottles in the manufacture of aerated waters, and the bursting of steam gauges on engines have caused serious ocular injuries.

Weavers get hurt by flying shuttles and could be protected by wire mesh guards between the looms.

In addition there are numerous less frequent possibilities for ocular injuries in many trades. I have heard of vanadium poisoning, but little known; and I have had one case of conjunctival infiltration with partial temporary loss of vision from the fumes of osmium in electrical manufacture.

It will be of interest to note that the United States Steel Company has reduced the number of ocular injuries in their shops fifty per cent. by recent protective measures. And that, according to the Twelfth Census, there is a lessened number of blind people in the

United States, and I think part of this decrease may be attributed to greater care in shops, as well as to the more rigid use of Cr  d  's method of prevention of ophthalmia neonatorum.

In visiting various industrial establishments in or near Philadelphia and in some very exhaustive reports received from farther distant plants, it was very gratifying to note the amount of attention being paid to protective measures of the employees, and it is well to note that this is more so in the larger of the plants.

Warning signs are abundant, especially the ones in regard to the use of goggles. The goggles mostly used are the "Saniglass;" being well annealed these do not break as easily as those made from scraps of glass, as used in some shops.

Glass shields over emery wheels and wire screens interposed between several sets of workmen are much used.

In the welding departments, double glasses of red and blue seem to be the only adequate protection.

Making factory work safer is profitable as well as humane, although workmen resent efforts made for their protection and refuse to submit to the adoption of precautionary measures, using them with reluctance. The knowledge of the means of protection is rather broad, but its use or enforcement is restricted. It should be more compulsory. There has been considerable difficulty in securing the necessary co-operation of the workmen in preventive measures. There must be more education of the workmen as to the results to themselves and their families and the percentage of injuries in their occupations, and simple explanation of the methods of prevention, and finally suitable laws requiring the use of such methods.

The mere fact of getting something in the eye, while not of necessity causing injury to the eye does interfere with vision, if only momentarily, and so may easily be the cause of bodily injury.

While the loss of a man's eye does not necessarily impair his earning capacity, it does increase the difficulty of *finding work*.

The new Workmen's Compensation Laws, which automatically assess damages for injuries received while at work, are taking the place of the older employer's liability acts, and these have brought more forcibly to the attention of employers everywhere the advisability, for the sake of their own pocketbooks, of better protection for their employees.

Railroads are instituting strict inquiries into the acuity of vision of

their men, especially in their operating force, and discarding those employees who are a menace to themselves and their passengers. For their own protection in the future, some large corporations keep a record on their employment book of the vision of their men when they begin with the firm.

Humanity and good economics go hand in hand. Therefore we should have hearty support from the business community, employers and Accident Insurance Companies, in our efforts at lessening occupational injuries to the eyes.

NOTE.—Amber tinted lenses are the best protection against brilliant light because amber acts by suppression of the chemical rays of the spectrum, while blue or dark lenses merely reduce the intensity of the red rays.

1807 Chestnut Street.

UNGUENTUM HYDRARGYRI OXIDI FLAVI IN EYE DISEASES.

HENRY L. GOWENS, JR., M. D.,

Philadelphia, Penn.

Mercuric oxid,¹ red oxide or binoxide, hydrargyri oxidum flavus (U. S. P., Br.), hydrargyri oxidum rubrum (U. S. P., Br.), HgO , is obtained by igniting mercurous or mercuric nitrate as long as fumes are given off:— $2\text{Hg}(\text{NO}_3)_2 = 2\text{HgO} + 2\text{N}_2\text{O}_4 + \text{O}_2$ —or by adding sodium hydroxide to a solution of a mercuric salt:— $\text{HgCl}_2 + 2\text{KOH} = \text{HgO} + 2\text{KCl} + \text{H}_2\text{O}$.

The product obtained by the first method is red and crystalline, of sp. gr. 11.2; that obtained by precipitation is yellow and amorphous, furnishing hgdrarg. oxid. flavum (U. S. P.). The latter is the more active form. Both modifications turn black when exposed to the light and air.

Unguentum Hydrargyri Oxidi Flavi (U. S. P.)²—Ointment of Yellow Mercuric Oxid consists of ten parts of the oxid and ninety parts ointment. For use in the eye diseases the ointment should be very carefully prepared. The trituration should be continued until the drug is as minutely subdivided as possible.

Physiological action of mercury:—If introduced into the animal economy, metallic mercury is not poisonous. By contact with the alkaline chlorides, however, it is converted into mercuric chlorid; the more finely divided the particles of mercury are, the more readily does this take place. In a prize essay Ives³ writes of ulcers of the eyes and also iritis caused by the use of mercury and its preparations. As early as 1821⁴ and 1834⁵ the use of preparations of mercury and the abuse of the same showing the above physiological action were recorded.

It is useful, writes one author, when the morbid phenomena show themselves in the eyes, the ears, the glands and the bones; also in weeping eruptions and ulcerations of the surface. In strumous ophthalmia especially you will find it (as I shall have to tell you when we speak of the irritant salts of the metal) an excellent medicine. You will find, if you consult the treatises on diseases of the eyes given us by Dr. Angell and Drs. Allen and Norton respectively, that they are in thorough agreement as to the high place occupied by the mer-

curial preparations in the treatment of these affections. Of their recommendations as to corrosive sublimate and other irritant salts of mercury I will speak presently, but they concur in praising the ordinary forms of the drug in blepharitis where the lids are red and swollen, in superficial keratitis, and in episcleritis. Among workers in mercury, keratitis and scleritis have not uncommonly been observed. It is more suitable to retinitis which is suggested by the symptoms of both workers and provers, and seems several times to have been cured by it.

Sicherer⁷ reports a corneal ulcer successfully treated by the simple application of a salve of the yellow oxide of mercury followed by an occlusive dressing.

Thomas⁸ recommends the ointment of the yellow oxide of mercury in eczema of the lids, blepharitis marginalis, hordeolum, chalazion, phlyctenular ophthalmia, ulceration and abscess of the cornea, interstitial keratitis, corneal opacities, scleritis and episcleritis.

Ohlemann⁹ gives credit to Pagenstecker for the introduction of the yellow oxide of mercury ointment in ophthalmic practice prior to 1871. Beside the above mentioned diseases, Ohlemann recommends its use in simple conjunctivitis, in diphtheria of the conjunctiva (3 per cent. strength), in pannus trachoma, phlyctenular keratitis and keratitis punctata. He contra-indicates its use in deep infiltrations and in corneal ulcers with pain and lacrimation. Pagenstecker first used 10 per cent. strength, Saemisch reduced it to 5-7 per cent. At present 2-4 per cent. strength of the yellow oxide of mercury ointment is generally used, but at the Hahnemann Clinic (Philadelphia) the best results are obtained from the 1 per cent. ointment.

Darier^{10 11} credits Pagenstecker, Gradenigo, Scheukker, Wicherkiewicz and Schnable for the use of the ointment in glaucoma.

Ramsay¹² also reports excellent results in its use in strumous ophthalmia.

Fuchs¹³ likewise recommends the ointment in the commoner diseases as afore named.

Knapp's¹⁴ private notes translated by Dr. Nagle state that Pagenstecker observed the lowering of the intraocular tension after massaging normal eyes. Following the corroboration by Wicherkiewicz, Costornuris, Makalahoff and Van Duya the massage was not only recommended for glaucoma simplex in its prodromal stage and following iridectomies for acute glaucoma but also for embolus of the central artery, thrombosis and retinitis albuminurica.

Clinical observations at the Hahnemann Eye Clinic, Philadelphia, give rise to the following statements:—

First.—It is safe to inspect the ointment before a patient is allowed to use it at home because hastily made preparations are contraindicated in all conditions for which the ointment is used.

Second.—Any strength from 1 per cent. to 10 per cent. of the ointment of the yellow oxide of mercury may be used in eye diseases, but the lower the strength the quicker and better are the results. Cases which show no progress in healing clear up rapidly on the reduction of the strength of the ointment.

Third.—Careful instruction with a demonstration of the same to the patient can only insure the best results with the use of the ointment.

Fourth.—A pledget of cotton is better than the finger in massaging the lids or any parts of the eye.

Fifth.—The ointment is homœopathic to sluggish ulcers of the eye, strumous ophthalmia, blepharitis marginalis and superficial keratitis, for alone it has cured such cases without recurrence to date.

Sixth.—As Carrier reports that in glaucoma the intraocular tension is lowered just so long as the massage is regularly used, so in some cases of corneal opacity better vision only can be had and maintained by the regular and continued massage with the ointment of the yellow oxide of mercury.

Seventh.—Six months to two years is a conservative estimate for clearing up opacities of a low degree of density for the demonstrable results in opacities of a higher degree of density.

Finally.—Threatened perforation of corneal ulcers and severe ocular pain must not be forgotten as contraindications for the use of the ointment in the diseases named.

Case 1.—J. M., aged 9, was kicked by a horse July 15, 1910. As the result of the severe blow in the face vision became worse and worse. Aug. 7, 1912, he reported at the Hahnemann Eye Clinic with interstitial keratitis o. u. Vision o. u. 12-card. A congenital luetic history was also obtained. Continuous massage with the yellow oxide has so improved the vision that he is now able to attend school. Vision at present without the proper correction is o. u. 12/40.

Case 2.—Mrs. D. P., aged 24, reported at the clinic with strumous ophthalmia after two years' treatment under the care of many physicians because of her continued removal from city to city. Nine

months' massage with the yellow oxide of mercury ointment has changed the vision o. u. from 12-card to 12/20.

1. Bartley, Elias H., B. S., M. D., Ph. G. *Medical and Pharmaceutical Chemistry*. Fifth Edition, 1902, pages 281 and 282.
 2. *United States Pharmacopœia*.
 3. Ives, Charles L., M. D. *An inquiry into the therapeutic value of mercury and its preparations*. A prize essay. 1866. Pages 7 and 18.
 4. Hamilton, James, Jr., M. D. *Observation on the use and abuse of mercurial medicine in various diseases*. 1821. Page 183.
 5. Philips, A. P. N., M. D., F. R. S. *On the influence of minute doses of mercury combined with the appropriate treatment of various diseases in restoring the functions of health and the principles on which it depends*.
 6. Hughes, Richard, L. R. C. R. Ed., *A manual of Pharmacodynamics*. Fourth Edition. 1880. Pages 647 and 654.
 7. Sicherer (Rev. Gén. d'Ophthal., Nov., '96), *Sajous' Analytical Cyclopædia of Practical Med.* 1910. P. 438.
 8. Bartlett, Clarence, M. D., Thomas, Charles M., M. D., *Clinical Medicine*. 1908. Pages 1118, 1119, 1129, 1130, 1133, 1135, 1136, 1137.
 9. Ohlemann, F. N. Max, M. D., *Ocular Therapeutics*. Translated by Oliver, C. A., A. M., M. D. 1899. Pages 40, 44, 86, 111, 113, 129, 136, 137, 138, 139, 148, 157, 160, 161, 162, 163, 164, 192, 184, 188, 189, 198.
 10. Darier, Dr. A., trans. by Stephenson, Sydney, M. B., C. M. 1903. Pages 32, 146 and 264.
 11. Pyle, Walter L., M. D.—Darier, A. 1910. Pages 219, 271, 273, 277, 288 and 317.
 12. Ramsay—*Edinburg Med. J.* July, 1899.
 13. Fuchs, Dr. Earnst. Transl. by Duane, Alexander, M. D. 1908. Pages 89, 110, 114, 174, 566, 569.
 14. Nagle, F. O., M. D. *The Journal of Ophthalmology, Otology and Laryngology*. Sept., 1912. Translating *Monatsblaetter für Augenheilkunde*. June, 1912.
- 1636 Walnut St.

PLATANUS OCCIDENTALIS, THE "LANCET" OF THE EYELIDS.

CHAS. H. HUBBARD, M. D.,

Chester, Penn.

PLATANUS OCCIDENTALIS, Sycamore, Button-wood, Button-ball, Plane tree, is a large tree of a maximum height of about 130 feet. This is not the Egyptian or Sycamore tree of the Bible, abundant in Egypt and Asia, the species that little Zacchæus climbed into to see Jesus when he passed through Jericho, but the forest sycamore tree of Britain and also of North America. It abounds in the streets of London and is generally considered a species of maple. Clark's Dictionary of Materia Medica, edition of 1902, speaks of *Platanus acerifolia*, the tree commonly known as *Platanus occidentalis*, and speaks of its use and beneficial action in cataract and ichthyosis.

In the days of our forefathers in the practice of homœopathy, *aconitum napellus* was not infrequently characterized as "The Lancet of the homœopath." This distinguished title was applied to the "Queen of the Polychrests" because of its recognized ability to control congestion and inflammation, thereby preventing the formation of pus and the probable subsequent use of the knife. It is possible that we of a later generation too often fail to appreciate the potent influence of the stately Monkshood.

After several years of careful trial and observation, your essayist presents a brief account of a drug that, presumably, is a stranger to most physicians,—*Platanus Occidentalis*.

This remedy was brought to my attention by Dr. Trimble Pratt, of Media, Pa. Somewhere in the musty archives of medical lore Dr. Pratt saw a brief, simple statement to the effect that *Platanus* should be a good remedy for chalazion, and advised its use in the tincture. The results following the doctor's experiments with this remedy were of the most pronounced and gratifying character. His confidence in it grew with its continued use and he now believes it to be practically a specific in these cysts of the eyelid.

Dr. Franklin Powel, of Chester, Pa., has used this drug with considerable success in chalazion.

In Dr. J. Compton Burnett's work on "Curability of Tumors by Medicine" (1903) he states that tarsal cysts were cured empirically by the tincture of *Platanus occidentalis*, and advised its use in five drop doses t. i. d.

It is not my purpose to present a detailed report of cases treated by me with *Platanus*. Suffice it to say that no failures have occurred in my practice, where the exhibition of the drug has been given a fair trial. Simple acute cases, without regard to remote or immediate cause, and also those of the most aggravating and persistent type, have yielded to its magic touch. Old neglected cases, where destruction of tissue occurred and cicatricial contraction caused marked deformity of the lid, have been restored to practically normal conditions. Again, in cases where surgeons of recognized skill and ability have operated many times, covering long periods, with refraction and the general condition of the patient carefully attended to, which nevertheless continued to develop these cystic tumors, have been cured by *Platanus*.

Whatever predisposing or exciting agencies enter into the development or perpetuation of chalazion, it is an almost universally accepted fact that the immediate etiological factor is due to an obstruction of the excretory ducts. However, some writers of recent date hold to the belief that it is an infectious bacterial process and that the chalazion is not a retention cyst caused by obstruction of the ducts of the meibomian gland. And there are those who claim that this lesion of the lids is purely a local disorder, while others as confidently assert that it is due to some constitutional disturbance. Most writers and practitioners declare that the only treatment is surgical. There are, however, some members of the homœopathic system of practice who affirm that tumors of this character are cured by internal treatment. But it is safe to say, as a general proposition, that the results following the exhibition of internal medicaments have been disappointing. While several well known drugs in our materia medica enjoy a favorable reputation, their rank failures are too common to merit confidence. It should not be forgotten that tarsal cysts do occasionally seem to disappear spontaneously.

In the continued use of *Platanus*, experience may develop special and exact indications for its selection. But its employment, with no proving and no guiding symptoms other than the brief statements above recorded, has been so uniformly successful in all the manifold

expressions of this disease that its empirical use becomes permissible and rational. The profession is earnestly urged to give this remedy a fair trial. If faithful and persistently used for several months even after all chalazia have disappeared, most gratifying results may be confidently expected.

Who will institute a thorough proving of this drug?

425 Broad Street.

DISCUSSION.

JOHN L. MOFFAT: Some of our valuable remedies were at first used this way—empirically for a single trouble; it is to be hoped that at least one proving will be made of this remedy. But, without waiting for that, I wish Dr. Hubbard would present at our next meeting some cases in more detail.

Each case so presented that the hearer or reader will agree with the diagnosis, and with the deduction that the cure can be properly attributed only to this medicine; adjuvant treatment and all other changes in environment should be reported as well as the promptness, completeness and permanence of the cure.

A few such "Model Clinical Reports"—really demonstrations—will carry scientific weight and be well worth publishing.

DAVID W. WELLS: I would ask Dr. Hubbard to report all his cases, successes and failures alike.

S. A. MACLACHLAN: I would make another amendment and ask that all members of the society treat their chalazion cases with this remedy and report their results next year.

A Study of the Eye Grounds in Psychoses. Well defined disorders from extensive morbid conditions may exist for some time without change in the ophthalmoscopic appearance of the fundus. Cases of dementia precox, either slowly developing or rapidly deteriorating, show no associated disc changes peculiar to this condition, but on the other hand show a higher percentage of normal fundi than either the organic or functional groups of psychosis. In functional psychoses there is no definite association between the mental disorder and the ophthalmoscopic appearance of the eye grounds.—W. L. Benedict, *Ann. of Oph.*, April.

HOMŒOPATHIC MATERIA MEDICA AND THERAPEUTICS.

Some Eye Remedies.

JOHN L. MOFFAT, M. D.

FLUORIC ACID. Hydrofluoric Acid. HF .

Subjective.—Sensation as if the lids were opened by force and *a fresh wind were blowing in them*; after that a feeling of sand in the eye, which felt inflamed.

Clinical.—This italicised symptom has frequently been verified in various eye diseases.

GELSEMIUM SEMPERVIRENS. Yellow jessamine.

Objective.—*Lids droop*. Eyes half closed, apparent inability to move the lids. Lids close on looking steadily at anything. Lateral nystagmus, on using the eye. Mydriasis. Pupil sluggish.

Subjective.—*Great heaviness of the lids*. Aversion to light. Soreness of the balls. Dull feeling (with some aching) in the orbits. Bruised pain above and back of the orbits. Drawing over the eyes. Pain from over eyes to occiput, < right. Orbital neuralgia.

Vision.—*Dim sight, with vertigo. Smoky appearance before the eyes, with pain over them*. Black and bright specks. Glimmering. Objects appear double. Diplopia which can be controlled by an effort of the will. Diplopia when inclining the head to either shoulder, but vision single when holding the head erect.

Clinical.—Gelsemium is valuable in diseases of the fundus and paralysis but is rarely beneficial in superficial affections of the eye. Its action is very marked in *serous uveitis, choroiditis, cyclitis and iritis*. It has a deserved reputation also for *detached retina, glaucoma* and "*Descemetitis*," the ball being slightly reddened, and in retinochoroiditis as well as in disseminate choroiditis.

GLONOINE. Nitroglycerine. $\text{C}_3\text{H}_5(\text{NO}_3)_3$.

Objective.—Mydriasis. Eyes rolled upward. Eyes injected, protruding, look wild. Apoplexy of the retina, vessels distended.

Subjective.—Eyes feel too large, and as though bursting out of the head. Pressing protruding pains.

Vision.—Photopsies: sparks, flashes. Black spots on stooping. Objects dance with every pulse.

Characteristics.—A tendency to sudden and violent irregularities of circulation. *Rush of blood to the head. Painless throbbing in the whole body, or in the brain*. The face may be very pale.

Clinical.—The great remedy for sunstroke, for being overcome by the heat. Eye troubles from very bright light.

GRAPHITES. Graphite. Black lead.

Objective.—*Very inflamed lid margins. Dry mucus in the lashes. Canthi crack and bleed easily. External canthus inflamed*. Morning

agglutination. Thin excoriating mucopurulent discharge. Lacrimation. Redness of the whites. A sty on the lower lid.

Subjective.—Light dazzles the eyes. Photophobia, intense in daylight rather than in artificial light. Sense of dryness in the lids and pressure. Heaviness of lids. Heat about the lids. Heat, burning, biting, smarting of the eyes.

Vision.—Vanishing of sight during menstruation. Flickering. When writing letters run together and appear double.

Clinical.—Few remedies are so frequently called for in chronic marginal blepharitis, in chronic inflammation of the lids, conjunctiva or cornea in scrofulous subjects, particularly with intertrigo or eczema, characterized by moist cracks which bleed easily. It has cured corneal ulcer, even with hypopion, but is more adapted for superficial ulceration from pustules, often with considerable vascularization of the cornea. Pustular keratitis. Morning <.

HAMAMELIS VIRGINICA. Witch hazel.

Objective.—Lids swollen. Eyes bloodshot.

Subjective.—Eyes feel forced out. Sore pain in eye.

Characteristics.—The sphere of hamamelis is passive congestion, venous hæmorrhage.

Clinical.—It has been used for traumatic iritis with hæmorrhage; it has been of most service in *hastening the absorption of intra-ocular hæmorrhage*.

HEPAR.

Hepar sulphuris calcareum. Impure calcium sulphid. CaS.

Objective.—*Upper lid red, swollen, inflamed*, with pressive pain. Morning agglutination. Spasmodically closed lids in the morning. Profuse lacrimation. Inflamed eyes, whites red.

Subjective.—Intense *photophobia*. *Eyeballs very sensitive to touch. Eyes very painful, or ache, in bright daylight, if he attempts to move them.* Pains: sore as if beaten, pressive, throbbing, shooting, smarting. Pressure in eyes, as if from sand. Smarting pain in external canthus, with hardened mucus.

Vision.—Obscuration while reading. Dim sight by candle light. Blindness on rising and standing after sitting bent over. Field of vision reduced one-half. Continual movement of bright circles before the eyes. Objects look too large.

Characteristics.—*Oversensitiveness of the nervous system, making the subject irritable, with hasty speech and actions. Extreme sensitiveness to touch, to cold, cold air and applications.*

Clinical.—*Acute phlegmonous inflammation; pustular and ulcerative keratitis with great intensity of symptoms; deep sloughing corneal ulcer with hypopion; corneal abscess; kerato-iritis; catarrhal or purulent conjunctivitis; parenchymatous keratitis; cyclitis, suppurative choroiditis; panophthalmitis.* There is no better remedy for *hastening the absorption of pus*, or (given low) *to hasten the formation of pus*. One of the great “scrofulous” remedies. The fact that the patient has taken much mercury is an additional indication for *hepar*.

“A jelly-fish swam in a tropical sea
 And he said: ‘This world consists solely of Me;
 Now, all that I learn from the sense of touch
 Is the fact of my feelings viewed as such.
 But to think that these have an external cause
 Is an inference clearly against logical laws.
 Again, to suppose, as I have hitherto done,
 That there are other jelly-fish under the sun
 Is a poor assumption that can’t be backed
 By a jot of proof or a single fact.
 In short, like Fichte, I very much doubt
 If there is anything else at all without;
 And so I’ve come to the plain conclusion,
 If the question be set free from confusion,
 That the universe centers solely in me,
 And if I were not—then nothing would be.’
 Just then a shark who was passing by
 Gobbled him up in the wink of an eye,
 And he died with a few convulsive twists—
 But, somehow, the universe still exists.”

—*Texas Med. Journ.*

CURRENT LITERATURE.

ANNALES DES MALADIES DE L'OREILLE, DU LARYNX, DU NEZ ET DU PHARYNX, Mai.

*1. L'Otospongiose—Otosclérose. Marcel Lermoyez.

2. Osteo-périostite isolée du temporal dans un cas d'otite moyenne. H. Lavrand.

3. Sur un cas de fibro-adénome de la trachée. E. Leonard et Bal-denweck.

4. Cas de sténose inflammatoire du cardia avec grande dilatation de l'œsophage chez une enfant de huit ans. J. Guisez.

5. A propos de l'opération du sac lacrimonasal par voie endonasale. Bourguet.

*6. Société Belge d'otologie, de rhinologie et de la laryngologie—15 Février.

*1. A very valuable and thorough exposition of this subject, advocating that we all substitute Ostmann's term OTOSPONGIOSIS for *otosclerosis* when speaking or writing about Politzer's disease, primitive alteration of the bony capsule of the labyrinth, which should be differentiated from fibrous adhesions of the footplate of the stapes. Nowhere else in medicine,* says Lermoyez, do we find such misconception, covering cicatrix and exostosis with the one term (otosclerosis). Otospongiosis is an osteitis not an otitis; it is a progressive spongification of the capsule: first stage, appears osteoid granulation tissue inside the Haversian canals of the bony capsule which replace the old bone; then this osteoid tissue is in turn absorbed—it was a temporary, intermediary, bone; finally a third, a new, bony tissue appears in these absorption medullary cavities. This new bone, at first compact, becomes finally spongy; it is an osseous metaplasia. The prominent lesions are: (A) Extremely frequent but not necessarily constant, ankylosis of the stapes, the footplate of which becomes thickened. (B) Almost constantly there are modifications of the membranous labyrinth, particularly in the cochlea, its first turn: atrophy (rarely of the auditory trunk or degeneration of Scarpa's ganglion), small lesions, in the spiral ganglion of Corti

*Except the inexcusable perversion of hemeralopia and nyctalopia (ignoring the force of the syllable *al*, blind).—J. L. M.

or of the nerve fibrillæ of the Organ of Corti. It is considered (but not demonstrated) that these nervous lesions are consequent upon the bony lesions—compression atrophy. Thus we find a mixed form clinically, a nervous deafness combined in varying proportion with the stapedian deafness. (C) The lymphatic spaces of the spongy bone are separated from the labyrinthine cavity by a very thin membrane. If this breaks the perilymph escapes into the areolar bone; this abrupt lowering of hydrostatic pressure causes a hitherto unexplained spontaneous vertigo.

The primary causes of otospongiosis are totally unknown. It has been attributed to hereditary syphilis (but very rarely is Wassermann positive and antisyphilitic treatment is useless) and, by Denker, to some hypophyseal affection. Secondary causes are heredity, pregnancy and chill.

Symptoms. Deafness, unilateral at first, begins probably at about puberty and becomes almost total for the high voice; its progress is not uniform. Auditory fatigue is an important factor; Urbantschitsch considers rapid fall in hearing provoked by excessive auditory attention a characteristic of otospongiosis. Tinnitus is inconstant in untreated spongiosis but constant if the case is under local treatment, it is apt to be terrible then and seems to be attributable to cellular degeneration of the spiral ganglion of Corti, ceasing when that nervous atrophy is complete. Transient vertigo is a frequent symptom. Many have a dull heavy pain deep in the ear, slight at first but continuous and worse after pregnancy, etc.; they say they have a "heavy ear." Froeschel has noted marked diminution of sensation in the external meatus.

Diagnosis is easy: there are two characteristic syndromes, otoscopic and acoumetric. *Otoscopic*—the drum membrane is intact. The malleus handle moves well. Normal permeability of the tube. Nose, nasopharynx and pharynx are normal. A normal ear which is deaf! So acoumetry is called upon to decide whether the deafness is due to otospongiosis or to labyrinthitis. [Lermoyez fails, in this connection, to allude to nystagmus.—J. L. M.] But there is one characteristic symptom revealed by the otoscope—the *reflex rose spot* (Schwartz); this has two characteristics, its seat and persistence: it is located on the promontory, on the internal wall of the middle ear on the first turn of the cochlea; is readily seen through the posterior inferior quadrant of the remarkably transparent drumhead, and

is generally crescentic in shape. It persists almost indefinitely, is not fugitive nor dependent upon the presence or progress of catarrh; its color is more vivid as the osteopathic process is aggravated.

The *acoumetric* syndrome is: (1) Shortening of aerial conduction, deafness for the voice which however is never absolute—the patient can hear something with a trumpet or microphone, this test however is reliable only with unilateral deafness. (2) Increased length of bone conduction—absolute increase, compared with the normal ear. Rinne is negative, more marked with the advance of otospongiosis, but never absolute (except in unilateral labyrinthitis); in the final stage the fork in front of the ear can be heard for only an instant; if the usual fork, do^2 (128 d. v.) is unheard one of do^3 (256 d. v.) or of la^3 may be perceived. This is important. Loss of low tones. The patient speaks low because his voice resounds in his own ears. (3) The auditory field is contracted at its lowest limit, which (air conduction) is normally do^2 (32 d. v.) but rises to 48 d. v., very often to 64 d. v. and sometimes above 128 d. v. Space forbids consideration here of the mixed forms and of treatment beyond emphasizing that vibratory massage and catheterization are harmful. Use no local treatment except when temporary relief of tinnitus outweighs the otospongiosis.

*6. A couple of pages, with a page of discussion, are devoted to occupational damage from accidents to the ear, larynx and nose. Other similar papers are abstracted, among them one by Tetrop, of Antwerp, on two cases of telephonic accidents by abrupt breaking of the electric current; in one there were auditory troubles lasting 24 hours and in the other almost total deafness with auditory phobia which were not cured for three weeks.

ANNALES d'OCULISTIQUE, Juin.

1. Les résultats du traitement opératoire du glaucome, de son institution à nos jours. D. E. Sulzer.

2. Pont conjonctival, lambeau conjonctival, suture de la cornée, suture de Van Lint, dans l'opération de la cataracte. Louis Vacher et Maurice Denis.

*3. Astigmatisme postopératoire dans l'extraction de la cataracte avec glissement de la conjonctive. Van Lint.

*4. Paralysie palpébrale provoquée dans l'opération de la cataracte. Van Lint.

5. L'extraction de la cataracte combinée a l'iridotomie périphérique. C. Pascheff.
6. La myopie transitoire dans la cellulite orbitaire. C. Pascheff.
7. L'oeille des rayons chimique. C. Pascheff.
8. Décollement et plaques blanches de la retine dans un phlegmon orbitaire streptococcique. C. Pascheff.
9. Recherches sur l'histologie et l'histochemie du xanthélasma. J. Mawas.

*3. Replying to Kuhnt, who had criticized his operations as provocative of astigmatism, Van Lint reports eleven cases examined with Pfister and Streit's astigmometer from four to twelve weeks after extraction, showing one diopter of astigmatism twice, 2 D. once, 2.5 D. once, 3 D. thrice, 3.5 D. once, and 4 D. thrice; a disturbance lower, if anything, than the average after the classical operation. Webster Fox is quoted, who prefers this operation and finds less astigmatism with it.

*4. In order to guard against loss of vitreous by forcible closing of the eyelids, Van Lint paralyzes the lids of nervous or exophthalmic patients by injecting two c.c of 1 per cent. novocain with adrenalin under, and the same quantity external to, the orbit, along its edge with a short pointed needle on a 2 c.c. syringe. He uses two ampoules of:

Novocain	0.02 g.
Adrenalin 1:1000gtt. 1
Sodium chlorid	0.006 g.
Water	c.c 1

Add an equal bulk of normal saline ("serum physiologique").

Pierce the skin on the level of the inferior brim of the orbit one centimeter outside of the intersection of a vertical line dropped from the outer edge of the orbit, painting the spot with tr. iodine. The needle is passed horizontally to beneath the orbit and the syringe emptied as it is withdrawn. Reentering at the same spot and directing the needle upwards and inward to the orbital brim, in each case to the bone, 1½ or 2 more c.c. are injected. Thus the filament of the facial nerve supplying the orbicularis are paralyzed in about twenty minutes; this time may be shortened by massaging the injections. The paralysis of the upper lid is not complete; the patient can close the eye, but not forcibly. Operation may be undertaken thirty, forty-five or sixty minutes after the injection. No lagophthalmos or other

bad effect has been observed. The patient had better lie down while waiting the effect.

REVUE GENERALE d' OPHTALMOLOGIE, 30 Juin.

Complications oculaires de la blennorrhagie. Péchin.

**JOURNAL OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY,
June.**

*1. The interrelation between systemic diseases and diseases of the eye, ear, nose and throat. Arthur P. Lensman.

*2. Surgery of the maxillary antrum. Albert H. Andrews.

*3. Chicago Laryngological and Otological Society (concl.).

*1. The overwork or abuse in our complex civilization of the special senses, in other words, their intense stimulation, are the cause of a number of obscure diseases. The best authorities define diathesis as an hereditary inferiority, a morbid individual temperament or predisposition to disease. Daniel, of London, has cleared up a number of cases of rheumatoid arthritis by draining foci of infection in the nose and accessory sinuses. Choroiditis ceased upon appendectomy by Robert T. Morris. "Autointoxication is not all moonshine, there are many and grave conditions in the eye, ear, nose and throat in which local treatment alone does not prove itself sufficient and where the newer methods of treating gastrointestinal diseases, particularly rigid hygiene and a dietetic regimen, help us wonderfully." "The time is past when we can treat with merely topical remedies."

*2. The author prefers for exploration of the antrum an incision in the middle meatus. The wall there is membranous in nearly all cases, the parts can be thoroughly cocaineized, the opening can be made without pain, of almost any size, and without disturbing the turbinated body. Treatment, if found advisable, can be administered through the exploratory incision. He uses a double edged knife, to cut forward and backward, set at an angle so that when the shaft comes up from the nostril the incision can be made horizontal. The knife is entered the nostril point upward then the point is turned outward into the middle meatus and passed through the membranous wall. As this differs in size and location in different individuals the knife, if it first encounters bone, is pushed backward, forward, up or down until the membranous area is found. No more pressure will be necessary than that of passing the knife through ordinary writing

paper. Since cocainizing as follows he has never had an alarming result, and rarely any constitutional disturbance. Pencils of cotton saturated with a weak cocain solution are followed in a few minutes with others of adrenalin 1:4000; then a swab, about the size of a grain of wheat, moistened with weak cocain is dipped into powdered cocain, allowing a small quantity to adhere, and is rubbed into the part to be operated. Even this is apt to be unsatisfactory in acute inflammation of the part. He washes with about 25 pounds air pressure and a nonbulbous small Eustachian catheter bent nearly at right angles. The head is bent forward over a receptacle. The author is fond of filling the cavity with a 3 per cent. mixture of camphor and menthol in a hydrocarbon oil. In a few cases he was unable to find any trace of the incision after a few months, but in most of the cases that he was able to examine some years after he was able to demonstrate an opening in the membranous portion of the wall. Of several hundred cadavers he has found an accessory opening to the antrum in about 25 per cent.; this would indicate that nature frequently cures with a spontaneous opening. Some cases have continued to discharge after free drainage and ventilation have been secured; many of these have been helped by stock or autogenous vaccines.

*3. Discussion concluded of the Smith intracapsular extraction of cataract. Oliver Tydings considers this the safest operation yet devised. He pointed out the two sources of danger to the vitreous: (a) the pressure of the lids upon the globe before the zonula is ruptured, and (b) faulty use of the spoon when loss of vitreous is threatening. G. F. Suker considers the Fisher retractor the best because it fixes the lid so that it can not get away; one can raise the patient's head with it and yet not have the point go beyond the upper edge of the tarsus; the patient can do himself no damage. The intracapsular extraction of cataract, he says, is suitable for removal of the hypermature and the immature variety. The introduction of the spoon in the preservation of the vitreous, gives it support—in delivery of the lens upon the spoon there is no pressure upon the vitreous, the direction of the force is at right angles to the plane of the spoon which is parallel to the plane of the lens and the latter has got to come up perpendicularly. Dr. Fisher has never heard any unfavorable reports from any one who he knew was familiar with the technique. He warned that any one contemplating the intracapsular operation should master the Smith technique, especially the lid hook and the spoon de-

livery, in the old operation before attempting the removal of the lens in its capsule. "When this is mastered a tremendous step will have been taken forward in the cataract operation, no matter what method is pursued."

J. OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY. July.

- *1. Eye lesions resulting from autointoxication. H. C. Thompson.
- 2. The prevention of hæmorrhage in tonsillectomy. John J. Kyle.
- 3. Chicago Ophthalmological Society. Proceedings.
The fusion faculty (valuable). Postoperative insanity.
- *1. Dr. Thorpson discusses autointoxication and iridocyclitis, uveitis, relapsing iritis, punctate keratitis, chronic choroidal changes, plastic choroiditis of the recurring type, (detailing cases cured by appendectomy), postoperative cases of delirium, iridocyclitis and glaucoma; scleritis, keratitis, corneal ulcer, particularly the relapsing marginal variety, toxic amblyopia, paresis of accommodation.

NEW YORK STATE JOURNAL OF MEDICINE. July.

- 11. The economic importance of diseases of the ear in school children. John E. Sheppard.

ANNALES D'OCULISTIQUE. Juil et.

- 1. Thérapeutique des symblépharons les greffes épidermiques orbitaires à grande surface. Magitot.
- 2. Brûlures chimiques de l'oeil par la bouillie bordelaise at par le mastic des foudriers. H. Villard.
- 3. Recherches sur l'action du néosalvarsan dans la kératite interstitielle. Hillion.
- 4. Le cristallin est-il susceptible d'être lésé par les radiations violettes et ultraviolettes? E. Carlo.
- 5. Panophtalmies colibacillaire endogène dans le diabète et streptococcique dans l'albuminurie. C. Pascheff.

SOCIETIES.

EYE, EAR, NOSE AND THROAT SOCIETY OF PHILADELPHIA, MARCH.

The scientific portion of the meeting consisted in a stereoscopic demonstration of the Anatomy of the Temporal Bone, by Dr. Gilbert J. Palen, Professor of Otology in the Hahnemann Medical College, Philadelphia. Dr. Palen's slides were taken from his own dissections and represent a volume of work.

Dr. Clay reported a case of Recurrent Laryngeal Paralysis resulting from mediastinal sarcoma.

JOSEPH V. F. CLAY, M. D., *Secretary*.

EYE, EAR, NOSE AND THROAT SOCIETY OF PHILADELPHIA, MAY.

Dr. Franklin Hill, of Philadelphia, read a paper on Heated Ether and Oxygen Anesthesia, and presented his apparatus.

Dr. Palen, in discussing Dr. Hill's presentation, stated that he had had Dr. Hill administer ether to a number of mastoid cases during the winter; he was much pleased with the behavior of the patient during the operation and the very healthy color maintained throughout the operation. This method of ether administration certainly requires less of the drug.

Dr. Clay stated that what impressed him most particularly in connection with this method of ether administration was the lessened postoperative nausea and vomiting and the rapidity with which the patients regained consciousness after discontinuance of the administration. The small mouthpiece used by Dr. Hill in administering the anesthetic facilitates the working about the head. There is very little free ether vapor in the operating room; this has a decided beneficial effect upon those who have to be confined in the operating room, especially when the work is about the head of the patient as in mastoid or nose and throat work.

Dr. George W. Mackenzie has had Dr. Hill give ether for a number of tonsil and adenoid operations; from the results observed he was convinced that there was less bleeding than under the cold ether administration. Dr. Mackenzie further stated that he is always fearful of operating adenoid and tonsil cases under a general anesthetic because of the poor breathing which is usually present. Under the heated ether and oxygen narcosis he had observed generally better breathing.

JOSEPH V. F. CLAY, M. D., *Secretary*.

ABSTRACTS.

Psychic Disturbances Involving the Eye. A refinement of diagnosis is required in separating the imaginary from the pathologic, in enabling one to understand and to explain the difficulty sometimes met either in securing responses when disturbing symptoms persist notwithstanding the fact that normal conditions have been restored, and in applying where necessary psychic therapeutics, and thereby securing results which cannot be secured by other means.—F. Park Lewis, *Annals of Oph.*, April.

Furunculosis of the External Auditory Canal. The Use of Alcohol as a Valuable Aid in Treatment.—The usual treatment of furunculosis of the external auditory canal has consisted of hot douches, wicks of carbolized glycerin and one or more incisions in the canal.

The cartilaginous canal is beset with an infinite number of hair follicles, any number of which can be infected by pyogenic bacteria from the discharges of the first boil or by a continuous bathing of pus from a discharging middle ear.

The main object of the treatment with alcohol is the constant sterilizing of the pus and canal wall, thus preventing re-infection. The technique is as follows: The canal is cleansed of cerumen, desquamation, discharge, foreign bodies or polyps. A wick is now inserted into the canal, nearly to the drum membrane, completely filling the lumen. If there is no discharge cotton is used; if there is a discharge gauze wick is used. If the canal lumen is partly closed by one or more distinct "ripe" furuncles, these should first be incised and the pus evacuated. Any incision should be carefully made into the center of the furuncle, or if this is not done the pus does not escape and the patient is not relieved. In addition, there is danger of infecting a new area and a perichondritis sometimes results from trauma to the cartilage. A probe point will often help to locate the center of a furuncle.

After being inserted snugly into the canal the wick is saturated with alcohol, plain or with boric acid, and the patient is instructed to keep the wick wet by dropping alcohol upon it at frequent intervals. The wick should be removed daily by the physician and a fresh one inserted. Whenever a pocket of pus can be located it should be incised. After incision, the alcohol should be applied before the patient recovers from the anesthesia. The alcohol smarts on freshly cut or abraded surfaces with the first application, but gives very little discomfort at later applications.

Not only does the antiseptic action of the alcohol prevent more infection, but the saturated wick acts as a small poultice to the canal. If the inflammation has spread to the surrounding tissues, a poultice of a dilute sulphonaphthol solution over the auricle may be added to the above treatment.

Following this treatment by wicks saturated with alcohol, some of the early mild cases become abortive without surgical incision. If the pain is severe and no pus can be definitely located, it is better to administer an internal sedative and wait for the boil to become "ripe" and the pus to localize, rather than to make incisions at random. The canal should be moistened with alcohol for a time after apparent cure in order to insure against an immediate return of an infection.—*Merck's Archives*, Jan.

The Epipharynx in Children. Malnutrition and anæmia are not always the result of epipharyngeal inflammation and swelling, but are often etiological factors in these conditions. Great care must be used in exploration and treatment for this mucous membrane, especially that covering the Eustachian tube, will not stand harsh treatment—much injury may follow careless treatment. When possible pass an endoscope through the opposite naris to that through which the instruments are passed. We need more proficiency and more conservatism. In young children or refractory older ones it is hard to use the Eustachian syringe. Then hold the patient's head in Rose's position, tilt it toward the affected ear and drop the solution through the nose toward the Eustachian orifice. Heat applied to the side of the neck near the maxillary angle is of marked service in allaying many of the acute epipharyngeal congestions.—E. M. Holmes, *Am. J. of Surgery*, April.

Latent Mastoiditis. Mastoiditis may be called latent when the inflammation of the mastoid cells persists after termination of acute inflammation of the middle ear. It is easily overlooked if one forgets that negative findings of the tympanic membrane have no significance as far as the condition of the mastoid cells is concerned. In all painful conditions of the ear examine the mastoid carefully. Make deep pressure with the thumb in the region of the digastric fossa, this may elicit intense pain while superficial pressure causes no pain. Palpate both tips at the same time and note the difference in size of the affected from the healthy one. When the tip cells are involved there is usually a mild periostitis at this point with infiltration of the soft parts, and loss of sharp outline of the tip. At times a small lymph gland becomes enlarged below the tip, which must not be taken for the tip itself.

Be suspicious of a latent mastoiditis when the general health of the patient does not improve after otorrhea has ceased, when there is present a little fever, malaise, anorexia, and heaviness in the head with occasional pains in the parietal or occipital region. It is absolutely necessary to exhaust all means of making a diagnosis if the patient complains of constant headache after cessation of a discharge from the middle ear; if at all doubtful it were better to make an exploratory operation rather than wait for further evidence of a mastoiditis. If latent mastoiditis is suspected in a case with a little exudate or pus on the floor of the middle ear, incise the tympanic

membrane and try to "force the exudate from the middle ear by inflating the Eustachian tube." [Better draw it out by suction.—J. L. M.] If streptococcus be found operate. A blood examination is at times a valuable adjunct in arriving at a conclusion whether there is pus in the mastoid cells. A skiagram is also of great help: a distinct opacity especially in the cells around the antrum would indicate operation if accompanied by other signs. Operate if there is an opacity throughout the mastoid and there are other indefinite symptoms; such opacity indicates either pus or sclerosis—in either case there is great danger in waiting. Another important symptom is myalgia of the sternocleidomastoid muscle. The pain from myalgia of the neck muscles often radiates to the frontal region, and a mistake in diagnosis could easily be made if there were a frontal sinusitis at the same time. After a mastoid operation the myalgia has been found to disappear for a few months, returning as soon as the fibers have become firmly attached again to the tip and the hypertonic condition of the muscles again becomes established.—W. Mitchofer, *Lancet-Clin.*, May 9.

A gonorrheal conjunctivitis in a traveling man was due to either: a fellow traveler's handkerchief or toothpick (in an attempt to remove a foreign body from the eye on a railroad train) or from hot towels applied in a barber shop. Unless, as is comparatively improbable, the infection was by the foreign body.—Douglas A. Payne, *Critic and Guide*, Aug.

Blood Supply of the Tonsil. "The tonsilar branch of the facial which has generally been supposed to be the principal artery to the tonsil seems not to enter the tonsil at all, but with an anastomotic branch of the dorsalis linguæ it supplies the plica triangularis and the muscles entering into the formation of the wall of the lower half or two-thirds of the tonsilar fossa. The tonsilar branch of the ascending pharyngeal sends twigs into the upper part of the wall of the tonsilar fossa but, like the tonsilar artery, they do not pass through the muscular fibers through the capsule and into the tonsil itself.

Thus there remain two arteries, the ascending palatine branch of the facial and the descending palatine branch of the internal maxillary, from which by anastomosis outside the fossa a single artery is formed that enters the fossa at its superior extremity and passes downward between the capsule and the muscular aponeurosis for about half an inch before penetrating the capsule to reach the tonsil. The arteries and veins penetrate the tonsilar capsule near its midpoint, superoinferiorly, and from a quarter to a half inch from the margin of the anterior pillar.

None of the numerous small arterial branches surrounding the tonsillar fossa penetrate directly through the wall and the capsule into the tonsil.

Of course, there may be slight variations and even anomalies, but the above is the condition in at least 95 per cent.

A vein accompanies the artery, running from the tonsil upward, passing out of the fossa at the point where the artery enters, and joins the palatine plexus just above the fossa. A small vein also emerges from the tonsil at the same site as the other vein and runs downward between the capsule and wall of the fossa to reach the pharyngeal plexus. The tonsilar branch of the arteria dorsalis linguæ seldom amounts to much, its bleeding can be easily controlled."—J. Leslie Davis, *The Laryngoscope*, March.

Atrophic Rhinitis, Scarlet-Red for. W. C. Wood has been using 5 per cent. scarlet-red ointment as routine treatment of atrophic rhinitis; no case has failed to show marked improvement in two weeks. By that time the crusts have almost entirely disappeared, and they continue to decrease with each treatment, the mucous membrane has resumed its normal color and thickness and the eczema is no longer noticeable.

After spraying both nasal chambers with hydrogen peroxid, thorough removal of all crusts and careful spraying with an alkaline antiseptic solution, the scarlet-red is applied to every portion of the nasal mucosa and the patient instructed not to blow the nose immediately but to wipe the secretions away as they appear at the anterior nares. There are no disagreeable sensations and no noticeable reaction. After a few treatments, however, there is a stinging and a return of the sense of smell.—*The Laryngoscope*, May, abstr. in *J. of O. and*

Deaf-Mutism From Purpura Hæmorrhagica. G. W. Stirson reports (J. A. M. A., May 30th) a child who went permanently "stone deaf" a day or two after being attacked with purpura hæmorrhagica when 23 months old. Power of speech was lost progressively. Obviously severe hæmorrhage into both labyrinths disorganized the parts completely by pressure.—*J. of O. and O-L.*, July.

Acute Thyroiditis Following Tonsillitis. Seven cases of acute non-suppurative primary inflammation of the thyroid gland following tonsillitis are reported in the March Annals of Otology, Rhinology and Laryngology, by C. F. Theisen. "There is some confusion in the literature on this subject" as some authors have used the term incorrectly.

The symptoms of acute thyroiditis (of a previously healthy gland) are quite characteristic. Dysphagia is practically always present, sometimes intense for several days. There is with it more or less acute congestion and swelling of the mucosa of the upper air passages. Dyspnea is a frequent symptom, caused by swollen mucosa and by compression of the trachea by the greatly swollen thyroid. Many of the cases start with chill, headache, prostration and other symptoms of an acute infective process. Temperature is always elevated, but rarely either very high or prolonged unless the case goes on to suppuration. Sometimes there is considerable congestion of the parts surrounding the thyroid.—*J. of O. and O-L.*, July.

Methylene Blue for Eye Affections.—On account of its bactericidal action and its harmlessness has been suggested by many authorities for local use in eye affections. Bichon especially recommends it in 0.1 per cent aqueous solution for ulcers and abscesses of the cornea. (*Critic and Guide.*) The editor has used it also for otorrhea.

Furunculosis of the External Auditory Meatus.—Do not incise at random; locate the pus and cut carefully to its center. Cleanse, then fill the meatus with a gauze wick which is soaked and kept wet with alcohol or 5 per cent. each of phenol and ichthyol in glycerine.

Alexin.—(which gives serums their bactericidal power) has been shown by Dr. J. Tissot to be not of the nature of a ferment. The inactivation of serums by heat is chemical; it results from the fixation of the acid by the albuminoid substances of serums, which fixation brings in its wake the dissociation of the soaps of the serums.

The bactericidal power of serums is due to the presence of soaps and soda and of cholesterin; the complementary alexin is constituted by the union of two complex substances, one the complex of soda soaps with globulin, the other the complex of cholesterin soap with albumen.—*Med. World.*

Anesthesia by Mustard Oil Inhalations.—The pain "of middle ear disease" may be relieved by once inhaling these fumes from a small bottle held to the nostril of the affected side, the other nostril being closed. The face reddens, tears flow and respiration is difficult. If only one inhalation is taken the relief of pain is almost instantaneous and lasts for some hours. Paracentesis may be performed without narcosis, the patient remains fully awake and has no unpleasant after-effects. Adolph Schwarz has used this in about 60 cases, including delicate women and decrepit old people, also in toothache, but ineffectively for facial neuralgia. He suggests that it should be of value in painful conditions of the nose, nasal cavities and tonsils as well as the ear and teeth.—*Münch. Med. Woch.*

BOOK REVIEWS.

DISEASES OF THE LABYRINTH. By Dr. ERICH RUTTIN, Privatdocent in the Otological Clinic, University of Vienna, with a Foreword by Prof. Dr. URBANTSCHITSCH. Authorized translation by HORACE NEWHART, A. B., M. D., F. A. C. S., Instructor in Otology, University of Minnesota; Otologist and Rhinologist, Northwestern Hospital; Fellow American Academy of Ophthalmology and Otolaryngology. Linen, 232 pages, with 25 textual figures, 9 $\frac{1}{4}$ x6x3 $\frac{3}{4}$ ", \$2.00, net. New York. Rebman Co. 1914.

This clinical study of 108 serous and purulent diseases of the labyrinth will interest otologists as affording a glimpse of the methods and therapy of Urbantschitsch's clinic. The matter is presented in a manner comprehensible by the non-specialist. In that clinic the examinations are made according to the following scheme:

Right.

Cochlear Examination.

Conversational voice.

Whispered voice.

Weber.

Rinne.

Schwabach.

C₁

C⁴

Vestibular Examination.

Spontaneous nystagmus.

Turning or Rotation reaction.

Fistula symptom.

Caloric reaction.

Galvanic reaction.

Left.

In order to establish unilateral total deafness it is necessary to exclude the ear not under examination; for this they employ Barany's exclusion apparatus ("Laermapparat"). If, with that applied to the other ear, the loud voice ad concham is not heard, if the fork is perceived only by bone conduction, if the deep tones (C₁) are not heard and the high tones (C⁴) are shortened then the diagnosis of unilateral deafness is very likely. They use a fork of medium pitch (e) for Weber, Rinne and Schwabach.

Nystagmus should more correctly be described as a slow and a quick movement, although the reverse is usual, for Barany has demonstrated that the slow component is the vestibular and the quick movement the reaction of central origin. Because of its slowness the vestibular movement was not observed and the quick movement was assumed to be the first; these are repeated while and because the labyrinthine stimulus continues. The usual terminology is adhered to in this book. In serous labyrinthitis the effectiveness of the caloric stimulus is lost first, then, more seldom, the effectiveness of the rotation stimulus.

Ruttin conceives that the caloric, turning and mechanical stimuli are of the same nature; he shows that the nystagmus produced by one of these stimuli can be completely arrested by another. He classes the labyrinth inflammation following chronic middle ear suppurations as (1) Circumscribed labyrinthitis, (2) Diffuse serous (and sero-fibrinous) secondary labyrinthitis, and (3) Diffuse purulent labyrinthitis, This last being clinically either Latent or Manifest. These forms occur only exceptionally after acute otitis media.

Under therapy (which is only surgical) he considers the indications for the radical and labyrinth operations..

Circumscribed labyrinthitis: First: Radical operation. In case of labyrinth symptoms and loss of function after the radical operation: Labyrinth operation. (Labyrinth operation in two stages.)

Diffuse secondary labyrinthitis: First, radical operation. With loss of function after radical operation: Labyrinth operation (this in two stages).

Diffuse purulent manifest labyrinthitis: Radical and labyrinth operation at once. . (Labyrinth operation in one stage.)

Diffuse purulent latent labyrinthitis: Radical and labyrinth operations together. (Labyrinth operation in one stage.)

A most valuable and interesting monograph, finely printed and bound. The translation is so smooth and clear that one needs be told it is a translation.

WHAT IS BITING US?

"Cantator" is the harmless beast
Whose buzz need not presage a feast;
His song "harps on the human ear,"
A signal that there's little fear.

The noiseless bug with striped pants
Goes by the name "Sollicitans;"
His dinner runs from 5 to 10,
Then sleeps till 4, then bites again.

'Tis well you know that none of these
Are of the dread "Anopheles"
Because they have no dotted wings.
And thus we classify our stings.

A cheerful boss is Dr. Smith
For underlings to study with.
Three hundred bites in one short day
Tempt one to ask "Does learning pay?"

—J. V. W.

The Journal of Ophthalmology, Otology and Laryngology

Vol. XX

Lancaster, Pa., and Philadelphia, September, 1914

No. 9

EDITORIAL.

To Dr. John L. Moffat:

As Editor of the JOURNAL I wish to express publicly my sincere thanks for your many courtesies and kindnesses to me in the past and for your promise of assistance in the future. I am voicing the universal opinion of the subscribers to the JOURNAL when I say that we appreciate your efforts, honestly and zealously made under many adverse circumstances, to keep the JOURNAL up to the standard of the best.

With best wishes for health and happiness,

I am, sincerely your

GEORGE W. MACKENZIE.

THE POLICIES OF THE JOURNAL.

BEFORE attempting to outline the Policies of the JOURNAL it is well to ask ourselves the question—Is there any real need for the JOURNAL? Our reply is, yes, and emphatically so at this time, for the average physician is too liable to be carried away with the idea of Scientific Medicine and to forget the real Art of Healing. It is for some of us, therefore, to keep aflame the torch during the present time that the Healing Art may not become a lost one.

We do not mean to speak disparagingly of scientific medicine; our intention is rather to encourage it. Up to the outbreak of the lamentable European war there were far more investigators, more laboratories, and a greater supply of funds applied to the task of medical research than ever before in the history of medicine. On the whole, the harvest has been a handsome yield, but it must not be forgotten that there have been some nubbins. The nubbins referred to are those *apparent* discoveries coming to us from well authenticated sources and supported by enthusiastic followers which are subsequently found to be *not real* but worthless. Unfortunately it sometimes happens that a

scientist of note who may have given to the world some worthy discovery will subsequently fall down and be guilty of offering us a nubbin. We do not wish to dwell upon this fallibility of human nature for we all are more or less fallible. In the main, the progress made in medical research during the last decade is marvelous.

The majority of the discoveries in etiology, pathology, diagnosis and treatment pertain to the specialties, and our own has not been neglected; on the other hand, there have been but feeble efforts made to solve the bigger problem of diagnosis, namely, the bearing that general faulty systemic or constitutional conditions have upon local pathologic changes and vice versa; what we may term the ultimate diagnosis, that is, seeing the case as a whole and not as divided units. A diagnosis is one that comprehends every possible factor in the case, whether it be local (?) or general, whether the etiologic elements are still existing and preventing recovery and thereby tending to make the case chronic or not; whether the etiologic factors are toxic or not, and if toxic whether their nature be chemical or biochemical; whether the toxins are of endogenous or exogenous origin; whether mechanical faults exist or not, and whether they are focal or distant; whether the mental attitude of the patient is favorable or unfavorable; whether the environment of the patient favors recovery or not, etc., etc. To be successful in the practice of medicine we must individualize our patients and view each case from every angle; include every possible etiologic factor, neglecting none; then only are we in a position to select the proper treatment. We are specialists, to be sure, but at the same time we must be sufficiently broad to see farther than the patient's eye, ear, nose or throat.

To be more concrete, let me take, for instance, a case of chronic middle ear suppuration, the appellation of which means to the average physician merely a long-standing purulent discharge from the ear. The science of Otology has taught many things concerning its etiology, pathology and treatment, yet otologists who are fond of being considered scientific differ very much in their choice of treatment. Many of the older men with wide experience would probably treat the condition conservatively. Mr. Heath would recommend the modified radical operation commonly called after him. Yankauer would recommend a closure of the Eustachian tube after his method; the Politzer school would recommend first, conservative treatment, failing in which a thorough radical mastoid operation after the Zangwill or

Kuester-Bergmann method. Many others, among whom we mention Kopetsky, would recommend a radical operation with the hope of putting the patient in safer condition, but with no promise of stopping the discharge; the ultra homœopath would recommend the single remedy based upon the totality of symptoms, etc.

The Art of Healing such a case consists primarily in comprehending everything that science has given us to be used as tools in determining the actual causes which have been at work to make the case chronic, and in addition the ability to select that particular form of treatment among the numerous ones extant that has been found by past experience best suited to other similar cases. And if no similar case in your or others' experience can be recalled, to institute a departure from the older established methods, providing it is safe. We should aim to cure our patients in the speediest and safest manner, to do everything necessary and no more.

The Policy of the JOURNAL, therefore, is to encourage scientific research into problems medical, and particularly those pertaining to our specialties; to stimulate increased interest in the Art of Healing. The JOURNAL encourages detailed reports of interesting cases where failures have resulted, as well as those where success has been obtained. In the event of a contribution appearing in the JOURNAL that is subject to criticism, the pages of the JOURNAL will be open for the publication of such criticism, and in the spirit of fair play the opportunity given the author of the original contribution to make a reply, when the subject will be closed to further discussion by the author and this particular critic..

Greetings to the Readers, Subscribers, Contributors and Advertisers:

You have learned from the August issue of Dr. Moffat's and Dr. Palmer's retirement from the JOURNAL.

It gives me great pleasure in expressing my appreciation and admiration of these two physicians who have edited, so successfully, this magazine for so many years.

I fully realize the great burden of responsibility they have shouldered these years of editorial labor, and that this burden was made a pleasant one by the assistance of so many good contributors who were always deeply interested in keeping up the high standard of the JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY AND LARYGOLOGY.

I feel deeply honored in having Dr. George W. Mackenzie, of Philadelphia, Pa., assume the editorship in our new undertaking.

Dr. Mackenzie's writings need no introduction to you, and I can assure you that his new articles and editorials will increase in interest and value with each publication.

I have conversed with many physicians in various parts of the country and have communicated with others in regard to the new management of the JOURNAL, and the interest that has been shown encourages me to contemplate certain changes in the hope of improving it.

You will permit me, therefore, to say that I am in hearty sympathy with the spirit manifested, and it is my earnest desire to meet your wishes and give you the high class periodical that the standard of the literature heretofore published demands.

I sincerely hope that as a result of the correspondence and interviews some practical plan will be evolved which will meet the special situation of the JOURNAL and, at the same time, will advance the best interests of the JOURNAL and the profession.

I further beg to assure you that my time is at your disposal, and I will support any constructive plan which properly conserves the interests of the JOURNAL, the contributors, the advertisers and the subscribers.

J. R. McCLEARY.

To the Members of the American Homœopathic Ophthalmological, Otological and Laryngological Society, and to the Readers and Friends of this JOURNAL:

It is with pleasure that I greet you on this occasion. This JOURNAL has just passed through the trying ordeal of a change in management and re-organization. You are all familiar with the details of this arrangement and comment is unnecessary. However, it would be the height of ingratitude to let this occasion pass without serious reflection and words of appreciation. The faithful and untiring service given to homœopathy, to the American O., O. and L. Society, and to this JOURNAL by those staunch war horses, Drs. Moffat and Palmer, should be written indelibly in our records. Two more ardent supporters of the law of similars and two more faithful workers in the field of journalism would be hard to find. To them is due the credit of years of support of our tenets and to the maintenance of a journal standing first among the journals of our specialty, and to them we should bow our grateful acknowledgment. The management of a medical journal is, at best, a thankless undertaking. And yet, through

all the years, these stalwart individuals have stood firm against most trying circumstances, ever extolling the virtues of our creed and always pleading for advancement in the scientific field of our specialty; all without hope of reward, a labor of love, devotion and personal sacrifice. To them we now extend our heartfelt thanks and wish for them many years of health and happiness and the pleasure of seeing the journal, which they have so carefully fostered, progress, develop and occupy, as it always has done, first place among journals of its kind.

For the new management I bespeak a prosperous future. Two better men could not have been found to assume the responsibility of succeeding Drs. Moffat and Palmer. The writings of Mackenzie and the business sagacity of McCleary are too well known to require further mention. It only remains for the members of our Society to rally loyally to their support to make this journal one of the best in the field. Every man should remember that much depends upon his own willingness to co-operate. Here's hoping all knockers will be buried at once, and that only boosters will be born into our ranks from now on. Let us unite in one grand effort to make our JOURNAL and our Society the very best possible. Let every man put forth his best efforts to bring to the Society and to the JOURNAL real scientific work. Do not put off until to-morrow but begin to-day to prepare for the future. A good management can succeed only with good support, so let us all get into the game.

Now for a practical suggestion or two. The JOURNAL's first need is more subscribers. The only way to materially increase the subscription list is for each man to become an active agent for the JOURNAL and take subscriptions. It has also been suggested that many of our men could, with great profit to themselves and with material assistance to the JOURNAL, subscribe for, and present to their friends, the JOURNAL for a year. Several of our members have already agreed to take ten annual subscriptions at two dollars each, sending the JOURNAL with their compliments to general practitioners in their immediate localities. One patient referred from any one of these physicians would probably pay back more than the original investment. It will be readily seen that this would very materially increase our subscription list and give the JOURNAL a big boost right from the start. Give this suggestion very thoughtful consideration and send your list of names and check to Dr. McCleary at once. 2d.

The JOURNAL needs good advertising. Many of our men are located in large cities where there are large concerns, from whom we all buy, who could be induced to take an advertisement in the JOURNAL if approached by the proper individual. Many of us can agree to take these advertisements in trade, paying the price ourselves and accepting goods from the manufacturer. Please remember that every little helps, and if you can get a quarter page in this way, and several of these can come from various sections of the country, it will help the JOURNAL.

Begin now to get something ready for the next meeting. You will, before many months, receive personal letters from the president and the secretary soliciting your contributions, but do not wait for these letters.

With most cordial greetings and best wishes,

Very sincerely yours,

DEAN W. MYERS.

MUSCULO-CAPSULAR ADVANCEMENT WITH REPORT OF CASES.

DAVID W. WELLS AND JOSEPH E. STERNBERG.

DEFINITION.—American Encyclopedia of Ophthalmology, Advancement, by Edward Jackson:—"An operation whereby the tendon of the ocular muscle is separated from its insertion, and attached at a point farther removed from its original attachment. In this way the muscle acquires increased power over the excursions of the eye. There are numerous operating methods, but in all cases the tendon of the impaired muscle is loosened and, by means of sutures, is drawn forward to a point in advance of its original insertion. Section of the opposing muscle may precede or follow the operation. Advancement operations differ from each other as to whether the muscle is advanced upon the eyeball, along with the other tissues with which it is related (musculo-capsular advancement), or whether the attempt is made to partly separate the muscle from the related structures and bring it forward alone. They differ also as to whether the sutures used to secure reattachment are introduced simply into the episcleral tissue, or whether they are made to take hold of the firm tissue of the sclera, *or the stump of the insertion of the advanced muscle.*"

To include the suturing to the stump as a form of advancement is certainly a contradiction of the first sentence of this definition; strictly speaking, it is a resection.

Historical.—Time forbids a complete history of the development of this operation, but since Jackson says that "the operation described by DeWecker in 1873 is often regarded as the beginning of modern advancement operation,"* it may be profitable to review briefly his technic and indications. DeWecker's article† is well worth careful reading. His illustration here re-produced shows plainly that it was a musculo-capsular advancement.

He says:‡ "Insert from within outward a needle having double thread thru the muscle and conjunctiva. . . . It is incontestable

*Wood: System of Ophthalmic Operations, Vol. I, p. 673.

†Annales D'Oculistique, T. 70, p. 225, 1873.

‡Author's Translation.

that one follows better the principle of conservative surgery by restoring muscular force than by enfeebling it. . . . I have no doubt that one obviates the widening of the palpebral fissure much better by the advancement without tenotomy of the antagonist than by the old procedure."

He used "a double suture which by equal traction drew the tendon close to the cornea."

"Indications for advancement are as follows:

"First, strabismus resulting from insufficiency of internal recti.

"Second, paralytic strabismus, when indications for tenotomy of the antagonist muscle or advancement of paretic muscle are fur-

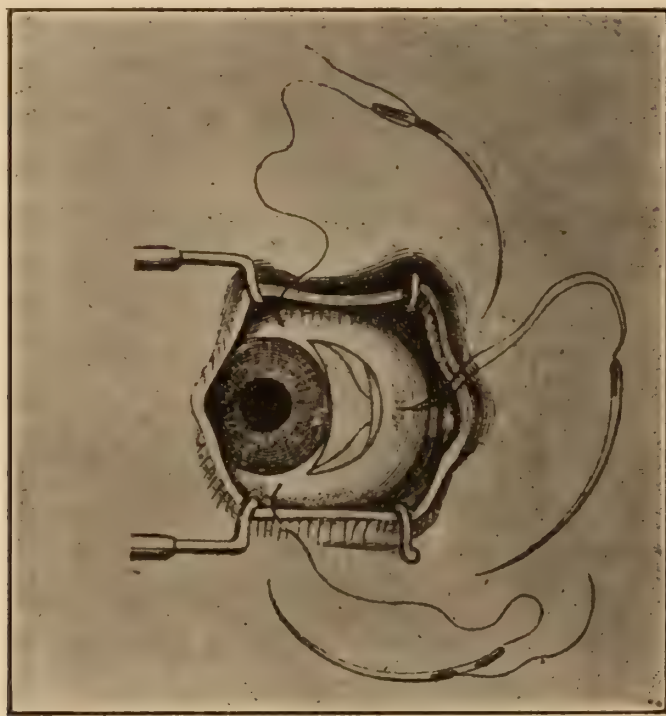


FIG. 1.—DeWecker's Musculo-Capsular Advancement, 1873.†

nished by a partial return of muscular function as well as by an arrest of a partial cure.

"Third, in case of secondary strabismus, when the cornea attains the middle of the palpebral opening, when the patient looks strongly to the side of the old tenotomized muscle. In this case, correction may be perfectly made without touching the antagonist..

"Concerning those forms of concomitant convergent strabismus associated with high hypermetropia, which may be treated by muscular

advancement, I have not yet had sufficient experience to give an opinion."

Dr. Payne, of Boston, has very kindly loaned us his notes, made while attending DeWecker's clinic in 1883, with careful drawings, showing that the musculo-capsular advancement had given place to a strictly capsular advancement in which the insertion of the tendon was not disturbed. The notes state that the same technic was used in 1895. Payne himself, at this time, made use of the Prince pulley stitch, which he has since somewhat modified. He advanced *all the structures* well over the corneal margin combining with this tenotomy of antagonist. He was performing this operation in cases of paralytic and secondary strabismus.

Landolt's article in Norris & Oliver's System (1900) was the first thoro discussion of this subject which came to our notice, and in 1901 one of us had the pleasure of seeing his technic. At this same visit he one day remarked: "My next case is a very unusual one requiring an operation which I rarely perform." After thus exciting the curiosity of his observers he proceeded to do a simple tenotomy of an internal rectus, first showing that notwithstanding both externi had been previously advanced, a small amount of esotropia persisted. It would appear that Landolt was the first to urge advancement for all forms of strabismus, postponing tenotomy until double advancement had proved insufficient. Since 1878 he has insisted upon the superiority of advancement over tenotomy, disproving the assumption that the opposite muscle gains what the tenotomized loses. By many his views were thought extreme and many of the world's greatest ophthalmic surgeons have continued to perform tenotomy as the first operation.

During that same year one of us saw Worth demonstrate his operation before the surgeons at the Royal Ophthalmic and after reading his reasons in "Squint" we decided to adopt it. The first attempts were so satisfactory that we have continued to employ his technic with slight modification to be mentioned later. We hold no brief for the superiority of this over other methods and, in fact, a careful re-reading of Landolt raises the question of just what Worth's contribution was. Both are the musculo-capsular variety. Worth's advocacy of the twisted waxed suture and the method of securing the cut end are extremely important. There is *no* cutting

out of the tendon suture and the blood supply of the muscle is not interfered with. Our method of introducing the scleral stitch is more like Landolt's and Meller's than Worth's.

Author's Technic.—Vertical incision 10 to 12 mm. long, 1 mm. from corneal margin. Dissect from sclera all tissue well above and below tendon, but avoid interference with central portion. Secure plenty of clear space so that large strabismus hook may be introduced well behind attachment, far enough above and brought out far enough below to include all tendon fibres. Advancement forceps is

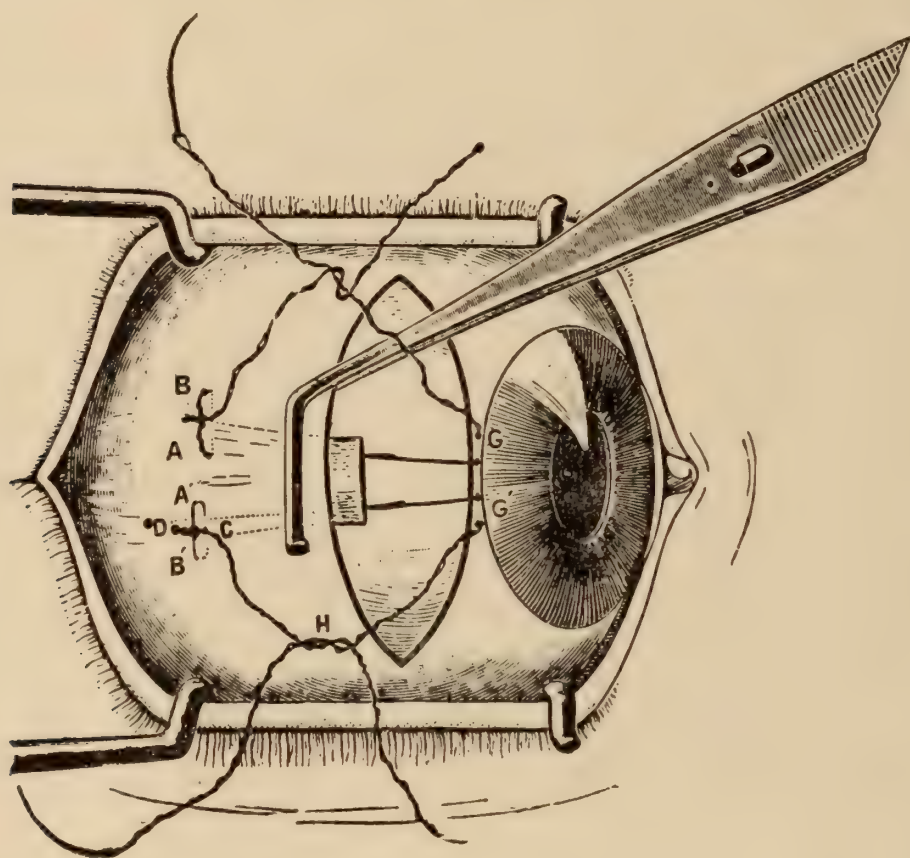


FIG. 2.—Author's Modification of Worth Advancement.

then substituted,—not clamped until it is seen to be perfectly vertical, with both eyes open. Tendon is excised close to sclera. Sutures, Worth method, introduced thru muscle, capsule and conjunctiva and tied, the distance behind the forceps varying somewhat with the error to be overcome, but usually as far back as convenient. We have no fear of overcorrection. Landolt* says, "One must get a very

*Personal Communication, 1914.

strong divergence in convergent strabismus. All the tissue, conjunctiva, tendon and capsule is now excised 1 or 2 mm. behind advancement forceps. This is done before inserting needles in sclera to avoid cutting sutures.

The Scleral Anchor.—This is the only difficult part of operation, and here we vary from Worth's procedure.

Instead of introducing needles horizontally, they are inserted deep into episcleral tissue at right angles to line of tendon 1 mm. above and below middle line and brought out 3 mm. above and below. This differs slightly from the Meller and Landolt method in that they carry the needles-obliquely up and down for a few more mm. thru loose conjunctiva. This seems to us wrong in principle, for after securing a firm hold in the episcleral tissue, the inclusion of more conjunctiva and necessarily the use of more thread tends to make less secure the scleral anchor. By the Worth method we found that the fear of entering the anterior chamber was apt to prevent getting deep enough hold, and no doubt this does occasionally happen. No harm has ever come from it and just how often it occurs we do not know. We are convinced that it does sometimes take place by experimenting on eyes about to be enucleated. Some difficulty is experienced in securing a strong enough hold with the fixation forceps to balance the force required to pass needle thru this tough membrane, and unless one has this counter-pressure it is impossible to get a strong hold.



FIG. 3.—Author's Fixation Fork.

This year the authors devised a fixation fork with two sharp short prongs, which are pushed thru conjunctiva into the sclera, the point of the needle emerging between the prongs.*

Before tying the sutures the antagonist is given a good stretching

*After this paper was completed it was discovered that a fixation fork, proposed by Batten, is illustrated in the Ophthalmic Year Book, 1912, but we had no opportunity to look up Dr. Batten's article.

to relieve temporarily the tension on the sutures. The surgeon's knot is tightened first of one and then of the other suture, the cut end of the tendon being approximated to the cornea by means of fixation forceps and small strabismus hook under the tendon of the antagonist. The whole operation requires from 10 to 15 minutes, the average time being twelve minutes under local anæsthesia. Local anæsthesia suffices for a child of over twelve years unless he be especially nervous. After instillation of cocain, one or two drops are injected over muscle. Both eyes are bandaged but the patient is allowed to be up and about. Unless there should be pain and fever (which have never occurred), the dressing is not touched until the evening of the sixth day. Thereafter the unoperated eye is left open and atropine instilled. Sutures are removed on seventh day. Full correcting lenses are immediately put on and atropine put in operated eye, which is covered with light dressing for one day. As Landolt has insisted upon patient remaining in bed, we have recently asked for his reason, as it appears to us an unnecessary hardship. He replies:* "I insist upon a patient remaining in bed with both eyes bandaged because he is quieter this way than when he is allowed to move about. It is self-evident that in order to obtain the insertion of the advanced muscle on a region that has so little vitality as the sclerotic near the corneal margin, the maximum of immobility of the eyes is required. Even with binocular bandaging and rest in bed this maximum is still a very relative one." We shall continue to allow our patients to be up and about and see no use for atropine while eyes are bandaged. In several cases one suture was found to have cut out of scleral attachment, but the union was firm and there was no vertical deviation. In a few cases both scleral stitches have cut out and union had taken place 2 or 3 mm. farther back than intended. We are convinced that these failures to hold perfectly were due to drawing the knot too tight rather than failure to secure a sufficiently deep scleral anchor. The prominence of the advanced structures disappears in a few weeks, but the increased vascularity will be evident for some months. There has been no case of infection, and almost entire freedom from pain,—in fact—uneventful recovery.

After this paper was commenced all the house patients were writ-

*Personal Communication, 1914.

ten to and asked to return for observation, but many of the letters were returned, as patients had moved. We were chagrined at discovering that our hospital records had not been better kept, and have taken steps to correct this. Most of these patients were seen first at the Out-Patient Department and when transferred to the hospital were recorded under a different number. Then many of them failed to return to the O. P. D. We invite your criticism of the scheme of arranging cases. If some universal form were adopted it would be possible to determine the relative value of different operations. The cosmetic result is the first consideration and we have therefore recorded the deviation in perimeter degrees.

Summary of 69 cases:

No.

Cases.

34. Esotropia, Private, 24 Straight, Overcorrection 2 under 7.

Of the 2 overcorrected the greater No. 3,684 is Exotropia 10° , but in this both Int. had been tenotomized before the advancement, manifestly wrong treatment.

The other is of 3° after double advancement for an Esotropia 50° and as this record was made soon after operation, it is probably straight now.

Of the 7 under corrected—

4 postponed or declined 2d operation.

2 esotropia 4° patients satisfied.

1 esotropia 2° patients satisfied.

10. Esotropia, House, 8 Straight, 1 over (3°)—will probably come straight.

4 not heard from. 2 undercorrected.

Of 2 under,

1 postponed opera. on 2d eye.

1 has esotropia 10° after double advancement, 3d oper. advised.

10. Exotropia, Private, 7 Straight, one overcorrection, 2 under.

Of the 2 under,

{ 1 has Exotropia 2° }
 { 1 has Exotropia 3° } patients satisfied.

The one overcorrection No. 8,221 was particularly interesting

because complicated with senile cataract. L. Exotropia 30° . Thinking the Exotropia had been caused by the loss of sight we removed the cataract securing vision of .3, but the exophoria remained the same. After consultation with Dr. John H. Payne we advanced the internal rectus, using the Worth suture in the muscle, but carried the sutures to the insertion of the Inf. and Sup. recti, as we feared to make the episcleral puncture in an eye which had so recently undergone corneal section for extraction. Tenotomy of antagonist was done at the same time, the result was a slight overcorrection 2° with some limitation of abduction. There was no irritation to the aphakic eye. We have never seen an account of an advancement following cataract extraction and do not now believe it is a safe procedure, the order should be reversed, the advancement first.

5. Exotropia, House, 1 Straight, 3 under, 1 no record.

Of the 3 under,

1 has 3° .

1 declined oper. on other eye.

1 Exo. 30° reduced to 10° by 2 advance. On same muscle.

1. No. 5077. Catatropia, Result = R. Hyperphoria 3Δ .

3. Exophoria, Result = 2 Orthophoria, 1 Exo. reduced from 20Δ to 10Δ .

1. No. 9316. Esophoria, Result = Exophoria 2Δ .

Phorias.—Operative interference in a case possessing binocular vision should, we believe, be undertaken with great caution, and is reserved as a last resort. It should not be done until fusion training and prisms have failed to relieve symptoms. While we have a number of successful tenotomies to our credit, we believe it to be a somewhat dangerous procedure, and have not practiced it for years.

The results of advancement in the three cases of exophoria reported justify us in believing advancement the correct procedure in a case as high as 15Δ . Landolt says:* "Remarkable also is the effect of simple advancement of one internus in insufficiency of convergence. Immediately after the operation you may have a convergent squint with homonomous diplopia of over 10° . When you

*Personal Communication, April, 1914.

withdraw the stitches after seven days you may still have overcorrection. But as the muscle gets back its elasticity and contractibility this overcorrection completely disappears." We believe it is indicated in some cases of esophoria. At the time the one case (No. 5077) of catatropia was done we had seen no report of advancing a vertical muscle. It was a sup. capsular advancement after a catatropia from tenotomy. The result was very satisfactory, but the operation was not easy.

Recently Landolt* has given very careful indications: "Tho reluctant to perform tenotomy upon the internal and external rectus muscle, I am inclined to advocate it in the case of the superior rectus, because the restriction in motility which results from the tenotomy and which I have proven to equal a paralysis, will show itself only on raising the eyes—in other words, in a part of the field which is only rarely made use of. I therefore advocate a tenotomy of the superior rectus in vertical deviations up to 5°I would never undertake it on the inferior rectus of the other eye. Higher than 5° vertical deviation is treated by advancement of weak muscles.

"While the internal and external rectus will remain in their new position at the margin of the cornea after operation if the patient keeps quiet, the superior and inferior recti show a remarkable tendency to recede from the point to which they have been advanced by the sutures. The following rule exists: much more than in advancement of the horizontal motors must a decided immediate overcorrection be sought for in advancing the vertical motors."†

How much does an advancement turn the eye?

No. 9337 was paralysis Int. Rectus, with ptosis of long standing. Deviation of 60° was reduced to 2° , practically straight. It was thought wise to attempt to straighten the eye before correcting the ptosis as it would not improve the appearance to uncover such a high degree of esotropia. The power to lift the lid is limited, but the drooping is hardly noticeable and the patient finds the vision very serviceable.

In the concomitant cases the greatest effect of one operation with—

*Landolt: Arch. f. Augenh'lk, Vol. LXXII, 1913.

†Landolt: Archives of Ophthalmology, March, 1914.

out tenotomy was 30° ; more often 15° to 20° . This variation is mentioned by Landolt and Meller.

Landolt says:* "No true clinician attempts to determine the effect of a muscular operation with mathematical accuracy, for in addition to the variations in the insertion and the degree of shortening of a muscle, the action on the eyeball must be considered from still a number of standpoints. It is therefore not possible to say that the tenotomy or the advancement or the shortening of a muscle causes a change in the direction of the eye of so and so many degrees, nor does the degrees of deviation of the eye necessarily give the degree of resection or advancement of the muscle which is necessary for its correction."

Meller says:† "Still less accurate figures can be given here (advancement) than in the case of tenotomy. The variations in the extent of the results should not occasion surprise, and it would be extremely naive, if we could believe that each millimeter of excised muscle will produce exactly the same degree of correction in every case, or that a certain degree of strabismus will be overcome by the excision of so many millimeters of muscle in accordance with an inflexible rule. A change of 30° in the position of the eye is the most that can be expected from an advancement; usually it is much less, and may be put down at 20° as an average in an operation with normal course.

"In the method which has been described, there are two means of influencing the effect of advancement—the excision of a piece of muscle, and the suture of the insertion in front of the original point of attachment. *The last plays a more important part than the excision.* If the operation is limited merely to the excision of part of the muscle, and the muscle again sutured to the original point of insertion, the effect of the operation will be slight. *Of decided importance is the approaching of the new point of insertion of the muscle toward the limbus.*"

Treatment of Antagonist.—We plead guilty to having somewhat frequently tenotomized the antagonist when the effect of one advancement proved insufficient. It is so easy at the time of remov-

*Archives of Ophthalmology, March, 1914.

†Ophthalmic Surgery, p. 96.

ing the suture to "get just a little more" without requiring the patient to undergo another advancement, and we have had few occasions to regret it.

Worth:* "I do not now perform tenotomy of any ocular muscle save in quite exceptional cases. I formerly considered tenotomy combined with advancement of the opponent to be safe, but have had reason to modify this view. I endeavor to see my old squint cases at intervals of two or three years even after all need for treatment has ceased; and it is usually not until several years have elapsed that I have had cause to regret the performing of a tenotomy."

Landolt told us this in 1900:†

"Since it is not possible to foresee the ultimate effect of any strabotomy, we advise not to perform both operations at the same sitting, but to wait the effect of the double advancement before practicing a tenotomy."

We are now following his advice.

The Attachment of the Tendon After Advancement.—At the St. Louis meeting of the A. M. A., 1910, E. C. Ellett said in discussing Dr. Hulen's paper: "It has been demonstrated recently that in these operations where the tendon of the muscle is advanced you do not advance the true attachment of the muscle at all. The muscle attaches itself solidly to the globe from the point of the new attachment clear back to where it was cut from the sclera, and the true new point of attachment is the old point of attachment. You have merely shortened the muscle. If that is true, and it has been demonstrated anatomically to be true, it seems to me a great deal would be gained by abandoning this scleral anchorage altogether and fastening the stump of the cut muscle at the site of the original insertion, which is very much easier to do."

Having been followers of Landolt and Worth, we submitted the question to them, and publish their replies with their consent:

4 Rue Volney, Paris,

August 21, 1910.

"In answering your very kind letter of the 4th inst. I may say

*Worth: British Med. Journal, Nov. 4, 1911, p. 4.

†Landolt: System of Eye Diseases, Norris & Oliver, Vol. IV, p. 119.

that, since I have practiced advancement of the muscles of the eye (my first publication on this subject was in 1878), I have had abundant opportunities of studying how the muscles become attached to the globe after advancement as well as after tenotomy.

“When I used to operate for squint according to the method I was taught by my masters—to whom I am otherwise so much indebted—I had more than once to correct my interference by searching after a tenotomized muscle, in order to fix it again at its original place. And, since I have found the right way of operating, innumerable occasions have been given to me to study this question on patients who had undergone tenotomy or insufficient advancement elsewhere.

“If advancement is executed correctly, and the patient kept, with both eyes bandaged, quietly in bed for seven or eight days, the new insertion takes place very near the cornea. Thus you obtain the excellent results I speak of in many of my later publications; total correction of very high degrees of squint, and reestablishment of normal binocular movements, without tenotomy, but simply by advancement and resection of both recti in convergent, both interni in divergent concomitant strabismus, and the same by advancement of the paretic muscle in paretic strabismus.

“When the so-called advanced muscle becomes re-attached to its old insertion, there must be an error in the operative procedure, and a favorable result cannot be expected. Such cases furnish, of course, no argument against my method. It is as if some one would argue against cataract-extraction who does not succeed in getting the lens out of the eye. . . . ”

Mr. Worth's testimony is as follows:*

“After an ocular muscle has been advanced, the question of whether it becomes attached to the globe only at its intended point of attachment, or whether it becomes glued down to the globe for a considerable part of its length, will depend partly upon the kind of operation which has been performed, and partly upon the skill of the operator. In my advancement operation, a most important point is that I do not isolate the muscle and I endeavor not to disturb its

*Personal Communication, April, 1914.

relations more than is absolutely necessary. After the advancement, the *muscle becomes attached to the globe at the designed point of attachment and nowhere else*. In the very large number of advancements which I have performed by this method during the last eighteen years, there have been some errors of judgment which I have had the opportunity of rectifying by a second operation. When I have had to increase the effect of the former operation, or when I have had to set back my new attachment a little on the globe on account of having produced too much effect, I have always found the under surface of the muscle is free from attachments, as is the case with a muscle which has not previously been advanced. But, apart from this direct evidence of dissection, any man of experience must know the difference between an efficient advancement of a muscle, and mere shortening of the muscle, the eye will rotate to a certain extent in the desired direction, but the power of the muscle is not increased. Its range of action is often decreased, and I have seen many relapses."

Naturally the opportunities for investigating these points are not many. We have had but one.

Case No. 58112, L. Exotropia 30° , L. Int. was advanced 12-1-16 under general anæsthesia; result = exotropia 10° , 14-2-27 under local anæsthesia same muscle was advanced again. Firm attachment was found close to cornea, but it did not extend back more than 3 mm.

Fusion Training.—Landolt has for many years emphasized the importance of pre- and post-operative training. His pre-operative treatment consists of atropine and full correcting glasses for constant use, with addition for near or convex lenses strong enough to prevent accommodation. Besides this the most painstaking fusion training.

Concerning post-operative training the latest word which we have seen from him is as follows:—"Immediately after the definite removal of the dressing, exercises for binocular vision must be begun. The patient operated upon for convergent strabismus will wear spectacles to correct the total hypermetropia and astigmatism, if it be present. The one who has been operated upon for divergent strabismus will be allowed, and even urged, to look at objects at

*Bowman Lectures, Trans. Ophthal. Soc., Vol. XXXI, '11.

close quarters, for the purpose of exercising his convergence. All patients should go through exercises intended, firstly, to perceive simultaneously the visual impressions of both eyes, then to combine the true impressions so as to give rise to the sensation of the third dimension."

Confirmed amblyopia and lack of fusion faculty are frequently insurmountable obstacles. Pre-operative training has not given us as good results as we had hoped, tho we believe it should be tried in all cases.

Conclusions.—As previously stated we do not assume that the advancement operation herein described is superior to all others. Wood's System of Ophthalmic Surgery describes twenty-one different methods. As before mentioned DeWecker, for many years, advanced the capsule leaving the muscle insertion intact. But we are convinced of the advantage of the musculo-capsular variety.

Stevens* calls special attention to "the importance of the capsule in modifying and maintaining the effects of surgical operations upon the eye muscles." The excellent results which Fox can demonstrate with his conjunctiva-capsular resection without disturbing the muscle teach us not to ignore the capsule. Every operator has frequently observed a very slight development of muscle fibres when the advancement forcep is turned over. Advancement of the separated tendon cannot be as effective as when conjunctiva and capsule are included. Resection or tucking without advancing the insertion must be still less effective. Since our experience bears out the statements of Landolt, Meller and Worth that one need not fear over-correction if the antagonist be not tenotomized, we feel that it is a mistake to fail to advance all the *structures, conjunctiva muscle and capsule*.

DISCUSSION.

DR. DEWAYNE HALLETT, New York: In conditions of faulty deviation of the visual lines or even in cases of latent tendency to this condition, not relieved by corrected refraction, surgical treatment is indicated.

The question then arises, shall it be a tenotomy or an advancement? Thousands of eyes have been satisfactorily straightened by tenotomy.

Theoretically it is always better to strengthen a muscle than to

*Motor Apparatus of the Eyes.

weaken its opponent. Unsatisfactory results have followed each method. Advancement is more uncomfortable for the patient to endure and the more difficult operation to perform.

I think it may be accepted that there are cases of convergence insufficiency, especially in presbyopes, who are entirely relieved by a partial or complete tenotomy of the external rectus. These are cases, where, with good rotation of the eyes, the externi possess normal or more than normal power and offer too great a resistance to the action of the interni. We are therefore safe in lessening such excessive action by some form of tenotomy.

We have, then, to decide between a tenotomy or an advancement on whether the eye turns because of excessive action of a muscle or group of muscles, or fails to turn by reason of insufficient action of a muscle or group of muscles.

In cases of paralysis all will agree that an advancement is indicated.

In cases of hypermetropes whose ciliary muscles are constantly in a state of excessive action with excessive action of the internal recti, most of us will agree that a tenotomy is indicated.

There are cases where, as in esotropia of long standing, there is excessive action of the internus, together with insufficient action of the externus, and most trying of all are those cases of esophoria, even esotropia for the distance, and exophoria or exotropia at the near point.

Drs. Wells and Sternberg very properly call attention to the fact that the opposing muscle fails to gain what the tenotomized muscle loses, but I have observed in cases of presbyopic exotropias in accommodation, that the power may be cultivated in the interni after a tenotomy of an externus, which otherwise it would not attain. However, it is only as an adjunct to an advancement that tenotomy is considered in their paper. They bring strong evidence to prove that:

1st. Overcorrection cannot follow an advancement when performed without tenotomy.

2d. The tendon should not be separated from its related tissues, but the muscle, capsule and conjunctiva all advanced, after a portion is excised, to a position nearer the cornea than the original attachment.

3d. That resection and advancement to the stump of the original attachment modify the deviation in a much lesser degree, and,

4th. That tucking has even less effect.

Their argument for a right angle scleral anchorage as against the methods of Landolt, Worth and Meller seems conclusive, and the use of their instrument (the fork) must be a great aid thru counter pressure in securing proper passage of the needle into the sclera.

This method would seem very appropriate for the larger devia-

tions. For the lesser ones a shortening by resection and attachment to the tendon stump, with or without tenotomy of the antagonist may be sufficient.

G. A. SHEPARD: I recall a case of squint which was to be operated on in a little girl of six, cured by fusion training, with unusual success. The squint was decided; approximately 4 or 5 degrees vertical. Vision was about 15/70ths in the strabismic eye. The parents wanted an operation. I had no idea what would happen or what operation to do. We took up the matter of fusion training. In two weeks the vision came up to 15/20ths and there was perfect fusion. I speak of this case as quite a remarkable result in fusion work. It opened to me the possibility of doing more of such work in place of operating. The child was intelligent and the mother was intelligent and that was a great advantage. The age of the little patient is now eight; she has perfect fusion power and holds the eyes together with perfect ease.

G. A. SUFFA: Did you correct any refractive error in that case?

G. A. SHEPARD: Yes, I think there was two diopters.

Standards of Measurement of Radioactivity. In view of the recent interest in radium and its uses in medicine it is of interest to know that:

One curie equals the amount of emanation in radioactive equilibrium from one gram of radium.

One millicurie equals the amount of emanation in radioactive equilibrium from one milligram of radium, and one microcurie the amount of emanation from 1-1000 milligram of radium. All measurements are made with the electroscope.—*Amer. Jour. of Clin. Med.*, Jan., 1914.

No. Private P. Hospital H.	Eye	Deviation Perimeter	c = constant oc. occasional alt.	Age	Onset	Refraction Cycloplegic	Glasses Ordered	Time Worn	Deviation Classes on	Fusion Training	Previous Operations	Advancement	Antagonist muscle	Anesthetic	Results			Remarks
															Perimeter	Phoria	Stereoscopic Vision	
P 5300	L	20°	c	22	3	R +3.75 = +1.00c 100° L +4.50 = +1.50c 75°	7 6 R +3.00 = +1.00c 100° L +3.75 = +1.50c 75°	3 mos	16°			L Ext. '04-1-3		local	straight	eso 25	Concrete pictures some perspective	
P 6268	L	hyper 30°	alt	18	baby	R +2.00 = +.62c 65° L +2.50 = +3.00c 95°	.7 .3 R +1.50 = +.62c 65° L +1.50 = +3.00c 95°	3 wks	25°	No binocular perception		L Ext. '05-5-29 L Sup. '06-10-11	tenot. central	local	L hypertropia straight			
P 6751	L	sclera cover'd	c	20	12 yrs.	R -2.5c 105° L -1.75 = -50c 15°	1 7 R -2.5c 105° L -1.75 = -50c 15°	3 wks.		Amblyoscope		L Ext. '06-3-27 R Ext. '06-5-15	tenot.	local	straight	eso. 25	medium	
P 7008	R	30°	alt	18	5	R +4.00 = +50c 75° L +4.00 = +75c 115°	.6 7 R +3.50 = +50c 75° L +3.50 = +50c 75°	1 mo	15°	Control reading Post-operative		R Ext. '06-10-13 R Int. cap. '06-10-28	tenot.	local	exotropia straight	eso. 75	partial	
P 7249 H 36454	L	35°	c	13	3	R +2.25 = +75c 75° L amblyopic	9 1 ft. R +1.00 = +75c 75° L +1.00	6 days	35°	Contra-indicated by Amblyopia		L Ext. '07-2-20 R Ext. '07-3-15	tenot. tenot.	general	Leat 2° straight G (converge no G)			
P 6538 H 57038	L	45°	c	22	baby	R +6.00 = +1.75c 75° L +2.00	7 .1 R +5.00 = +1.75c 75° L +2.00	2 yrs	15°	Contra-indicated by Amblyopia		L Ext. '07-4-15		local	straight			
P 6577	R	20°	c	12	3	R +6.00 = +50c 165° L +6.00 = +37c 75°	5 200 .9 R +5.00 = +50c 105° L +4.50 = +62c 75°	2 yrs.	12°	Contra-indicated by Amblyopia		R Ext. '07-11-19		local	straight			
P 8366 H 45758	R	50°	c	7	19 mos.	R +3.00 L +3.00	9 2 ft. R +3.00 L +3.00	1 yrs	50°	Before and after operation.		R Ext. '09-4-13 L Ext. '09-11-11	tenot. stretch	general	straight G	eso 30° No G eso ortho	good	
P 8473	L	15°	alt	19	congen.?	R +1.25 = +50c 180° L +1.00 = +75c 105°	9 .9 R +.75 = +50c 180° L +.75 = +50c 180°	after operation	15°	Stereoscopic Post-operative	2 tenot. L ext.	L Ext. '09-7-7	tenot.	local	straight		good	
P 698a H 44072	L	30°	c	10	2	R +9.00 = +1.00c 60° L +9.00 = +75c 120°	.3 .4 R +8.00 = +1.00c 60° L +8.00 = +75c 120°	3 yrs	10°	Before and after operation		L Ext. '09-1-29	tenot.	local	straight		good	
P 3684	R	cornea covered	alt	13	8 mos.	R +2.50 = +125c 55° L +3.00 = +50c 135°	.1 1 R +2.50 = +125c 55° L +3.00 = +50c 135°	9 yrs.	25°	Stereoscopic	tenot R & L. Int. 2 each several yrs. ago.	R Ext. '09-4-16	tenot on removing sutures stretch	local	exot 10°			
P 9114 H 58636	L	30°	c	15	2 yrs.	R +1.50 = +50c 90° L +2.00	1. 2 200 R +3.00 = +50c 30° L +1.50 = +25c 155°	after operation	50°	Atrop. and occlusion.		R Ext. '10-11-11 L Ext. '10-12-9	stretch	local	straight			
P 10144 H 63037	L	50°	c	35	14 yrs.?	R +5.00 = +50c 30° L +3.25 = +35c 155°	.8 +2 R +5.00 = +50c 30° L +3.25 = +35c 155°	had worn G for yrs		Contra-indicated by Amblyopia		L Ext. '11-2-6 R Ext. '12-11-15	stretch stretch	local local	exot 3°			
P 7013 H 54782	L	20°	c	4 yrs		record lost	1. .6 R +2.00 L +3.50	3 yrs.	10°	Atrop. and amblyoscope		L Ext. '11-15-16	stretch	general	straight			
P 8219 H 50633	L	20°	c	7		R +2.00 = +50c 90° L +2.00	.9 .1 R +1.50 = +50c 90° L +1.50 = +50c 90°	3 yrs	12°	Amblyoscope		L Ext. '11-9-22 R to be done later	stretch	general	esot. 5° oc			
P 9684 H 5110 15799	L	sclera cover'd	alt	26						Refused G and orthoptic treatment		R '12-1-5 L '12-1-15	tenot. stretch	local	straight			
P 10264	L	55°	c	6	4 mos.	R +1.00 L +1.25	9 1 200 R +1.00 L +4.00 = +2.00c 105°	2 wks	30°	Atrop. in fixing eye		L Ext. '12-2-14 R advised	stretch	general	esot 10°			
P 9093 H 60062	L	22°	c	20	10	R +4.00 L +5.50 = +3.00c 105°	9 .1 R +4.00 L +4.00 = +2.00c 105°	5 mos	20°	Atrop. fixing eye and bandage		L Ext. '13-1-4 R Ext. '13-1-4		general	straight			
P 9978 H 63687	L	20°	c	5	congenital	R +3.00 L +2.00	16 200 fingers 3 ft. R +1.00 L -2.00	5 mos	20°			L Ext. '13-3-1		general	straight	ortho	good	
P 10073	L	15°	c	8	1½	R +1.25 = +50c 100° L +.75 = +3.00c 10°	.7 .2 R +1.25 = +50c 100° L +2.75c 80°	2 mos	15°	Amblyoscope and Stereo straight esophoria 25d Refused		L Ext. '13-2-72 R advised		local	esotrop 15°			
P 10011 H 64495	L	45°	c	22			.9 .9 R +2.50 = +75c 75° L +2.50 = +1.00c 75°	after operation				L Ext. '14-2-20	stretch	local	straight	L Hyper. 7	poor	
P 10749	L	30°	c	18	baby	R +1.00 = +25c 75° L +2.25 = +50c 145°	1. .1 R +.25 = +25c 75° L +1.00 = +50c 145°	9 days	25°	After operation			stretch	local	straight		good	
P 1090	R	20°	c	16		R +4.50 L +4.50	20 80 20 60 R +3.50 L +3.50	4 yrs.	No change			'13-7-2	stretch	local	straight			
P 2036	L	24°	c	8		R +1.75 L +2.00	20 20 20 30 R 1.00 L +1.25					'11-1-20		local	esotropia 4°			
P 1499	R	20°	c	35		R +3.50c 60° L +3.00c 120°	20 120 20 30 R +3.50c 60° L +3.00c 120°	12 yrs				'12-3-14		local	straight			
P 1226	L	20°	c	15		R +1.75 L +1.50	20 30+ 20 30+ R +1.25 L +1.00					'12-5-16	stretch	local	straight	eso 2	good	
P 1304	R	27°	c	7	1910	R +1.00 L +50				none ordered		'14-1-21		general	esotropia 1			
P 1576	R	22°	c	14		R +1.75 = +62c 90° L +.75	20 80 20 20 R +1.00 = +62c 90° L +.37					'11-2-24	tenot	local	straight			

REPORT OF ADVANCEMENT CASES.—DRS. WELLS & STERNBERG.

ESOTROPIA.—Continued.

No. in Private Hospital	Eye	Deviation Perimeter	c = constant oc = occasional alt = alternate	Age	Onset	Refraction Cycloplegic	V	Glasses Ordered	Time Worn	Deviation Glasses on	Fusion Training	Previous Operations	Advancement	Antagonist Muscle	Anesthetic	Results			Remarks
																Perimeter	Phoria	Stereoscopic Vision	
P 1227	L	26°	alt	15		R + 2.25 L + 2.25 = +1.50c 90°	20/30+	R +1.50 L +1.50 = +1.50c 90°				Tucking R. 1910 Tucking L. 1911	'13-6-24 L Ext	stretch	local	straight		good	
P school case H 65531	R	35°	c	6		R +1.25 L +1.00	20/70 20/20	R +.75 L +.50	2 mos.	30°		2 tuckings in April, 1913	'13-5-18 R Ext.	stretch	general	straight			
H 59145	R		alt	6								tenot. of L Int. 2 yrs. ago.	'12-3-26 R Ext.	stretch	general	esotropia 5°			
P 1033	L	20°	c	18		R +.75 L -3.00 +2.00c 105°	20/15 fingers 12 ft.	refused					'13-5-14 L Ext.	stretch	local	straight			
P 600	R	12°	alt	15		negative							'12-1-16 R Ext	stretch	local	esotropia 2°			
P 1709	L	35°	c	7		R +2.75 L +2.75		R -1.50 L -1.50	2 yrs.				'12-1-26 L Ext.	tenot. '12-11-6	general	straight			

EXOTROPIA.

P 6035	L	20°	oc	10		R +.50 = +.37c 90° L -1.00 = -.50c 105°	.9 .8	R -.37c 90° L -.50 = -.50c 105°	6 wks.		Stereoscopic 3 mos. = no change		L Int. '04-12-23		local	straight	exo.?	fair	P. 822r. [Cataract extraction '10-1-23; sutures carried to insertion to sup. and inf. recti instead of corneal scleral margin.]
P 9128	R	20°	c	24		R nystagmus & amblyopic	.5 .5				Contra-indicated by Amblyopia		R Int. '10-12-5	stretch and tenot.	local	straight	eso. 75 Hyper. 64	fair	
P 3271 H 52585	L	36°	c	38	after cat.		.9 .4	R +2.25 = +.62c 150° L -11.00 +100c 120°			None		L Int. '10-12-6 R Int. '11-7-7 5 mm. resected	tenot.	local	esotrop. 2°			
P 4346 H 59480	R	60°	c	32			.1 1.				None			tenot.	local	exotrop. 3°			Complete ptosis—Tansley operation after advance.
P 1491 H 59457	L	37°	c	31	1 yr.		.1 l. p.				Contra-indicated by Amblyopia		L Int. '11-19-12	tenot.	local	straight			
P 10587	R	20°	c	22		R +2.00 = +1.00c 90° L +.75 = +1.00c 90°	.1 1	R +1.00 = +1.00c 90° L +1.50c 90°	1 mo.	20°	Stereoscopic		R Int. '13-12-23	stretch	local	straight	hyper. 24	lowest grade	
P 2014	R	26°	c	17		R amblyopic L +.75	fingers 10 ft. 20/15	none		No change	Atrop. in L for 4 mos.		'13-12-27		local	2°			
P 446	L	22°	c	23		R +4.5 = +2.75c 60° L +8.00 = +3.00c 120°	20/20 20/200	R +4.00 = +2.75c 60° L +7.00 = +3.00c 120°	16 yrs	"	3 tenotomies		Musculo-capsular '12-1-19		local	straight			
P 1643	L	36°	c	25	17 yrs ago.	R +2.50 = +.75c 105° L 3.00 = +2.25c 75°	20/30 card 20 ft.	R +1.75 = +.75c 105° L +2.25 = +2.25c 75°	1909	"	2 tenotomies of Int. Recti.		Musculo-capsular '11-5-23	Partial tenot. ext.	local	straight			
H 64765	L	26°	c	10		R +3.75 L +3.75	20/10 20/30	R +3.00 L +3.00			2 tenotomies of intern		13-2-28		general	straight			

REPORT OF CASES—DRS. WELLS & STERNBERG.

EXOPHORIA.

P 6225 H 43974	Phorometer	18.5	37				.7 .7	R +6.00 = +10c 10° Pr 4.5 Base in L +6.25 = +75c 180° Pr 4.5 Base in	3 yrs.		None	tenot. of both ext > from 204 to 184	R Int. '09-1-12 no resection		local		ortho. 1/2	
P 2242 H 4549	L	20.5 (oc ex ot)	7			R +1.00 = +.50c 75° L +1.00 = +.50c 65°	.8 .8	R +.50c 75° L +.50c 165°	3 mos.	No change	Stereo. after operation		L Int. '09-4-23		general		exo. 104	good
P 9561		25.5 (oc ex ot)	6 1/2			R +1.25 = +.75c 160° L +1.00 = +2.25c 180°	.9 .8	R +.75 = +.50c 180° L +.50 = +2.50c 180°	1 yr.		Stereo. = good ad- duction but ex- ophoria = same		L Int. '13-5-16		general		ortho.	good
P 9316 H 54776		18.5	39				.7 .9	R +5.00c 90° = Pr 1.0 Bin L +25c 120° = Pr 1.0 Bin			Esophoria Stereo. 1 mo. exop. same	5 wks. previous tenot. of L Ext. for exophoria	L Ext. '11-5-23 no resection				exo. 20.5	2 graduated tenot- omies Final Result = Exophoria 25
P 5077		R 10. to 15.5 could not raise above horizontal					.9 .9				Catartopia Stereoscopic Control reading	tenot. R sup. for R hyper. of 84	R sub capsular '03-5-7				R hyper. 3-	Wears R Pr 25 B down

ESOTROPIA (Hospital (House)) CASES

Hospital No.	Eye	Deviation Perimeter	Age	Advancement	Antagonist Muscle	Anæsthetic	Result
64699	R	15°	13	R Ext. '13-2-25 L Ext. '13-3-4		general local	esotropia 10° straight
58463	L		15	L Ext. '12-2-09		local	
40674	L		38	L Ext. '08-3-20 '08-4-7	stretch tenot.	local local	straight
40759			9	'08-3-26	tenot.		straight
44255	R		10	R Ext. '09-2-15	tenot.		straight
44407	L		20	L Ext. '09-3-1		local	
53002	L R	35°	13	L Ext. '11-1-10 R Ext. '11-1-17		local local	esotropia 20° straight
64208	L		21	L Ext. '13-1-28		local	
58462	R		11	R Ext. '12-1-2 L Ext. '12-2-9	stretch	general	
53403	R		10	R Ext. '11-2-17	tenot.	general	straight
59971	R			R Ext. '12-1-5 L Ext. '12-2-3	stretch stretch		straight
58154	L		8	L Ext. '12-1-19 R Ext. '12-2-2	stretch	general	
71040	R	20°	22	R Ext. '14-3-3	stretch	local	exo 3°
63737 (O.P.D.)		20°	6	R 1912 L 1912			straight
70972	L			L Ext. '14-2-27 R Ext. '14-3-10	stretch stretch	local	straight
EXOTROPIA							
65234	L	35	13	L Int. '13-3-28		local	exotropia 30°
58112	L	30°	11	L Int. '12-1-16 L Int. '14-2-27 R Int. '14-3-10	tenot.	general	exotropia 10° suture cut out
45174	R		57	R Ext. '09-5-11		local	
64094	L		11	L Ext. '13-1-21 R Ext. '13-1-31	none none		straight
70531	L	30°		L Int. '14-1-30	tenot.		exotropia 3° thought straig't

ANOMALIES OF HEARING.

HOWARD P. BELLOWS, M. S., M. D.,

Boston, Mass.

THE hearing power of the human ear is subject to many and great variations. The range in hearing distance between the almost totally deaf ear and the ear of acute auditory sensibility is remarkable. Still more so is the difference in auditory perception between the man of untrained ear and the highly cultured expert in mechanics, in music, or in science, to whom the slightest variation in rhythm, in tone, or in some half mysterious quality of sound, is significant of important physical changes. Aside from all the developments and variations in normal hearing, however, we encounter quite a large class of perversions of hearing power which are of no little interest to the physiologist and to the pathologist, as well as to the aurist. To these conditions we will turn our attention—grouping them under the general title of anomalies of hearing. In treating of them I shall endeavor to have in mind the members of our society who are not exclusively specialists, as well as those whose work and leading interest centers about diseases of the ear.

AUTOPHONY.—Perhaps of most frequent occurrence and most familiar is the phenomenon commonly known as *autophony*, sometimes called *tympanophony*. In this condition there is a distressing resonance, or reverberation, of one's own voice when speaking and, at times, even an exaggeration of the respiratory sound when breathing. There are few children who have not amused themselves by talking, or laughing, with their heads held in a barrel, or inside a bandbox. The curious muffled reverberation of the voice which is so amusing to the child when thus produced is anything but amusing when occurring as the result of abnormality or disease. This phenomenon is associated with a number of widely different pathological states. When the external auditory meatus is plugged with impacted cerumen, or with a closely fitting foreign body, this is one of the prominent indications of the condition. When there is an accumulation of mucus or serum within the tympanic cavity this is usually one of the symptoms in evidence. When the Eustachian tube is the seat of disease autophony is a frequent accompaniment, but curiously enough this

may be either when the tube is clogged and continuously closed, as during an acute coryza, or when the tube is abnormally free and open, as from a sclerotic affection of the middle ear. It may occur upon one or both sides, and may even be present with apparently normal hearing power.

PARACUSIS WILLISII.—Another frequent perversion of hearing is when a person hears with apparent ease in a noisy place but becomes very deaf as soon as the noise ceases. This is known as *paracusis Willisii* because first described in 1680 by Willis, who observed the case of a deaf woman who could only hear her husband's conversation while a servant stood by beating a drum. Deaf people, in general, may be divided into two classes, one of them hearing relatively better in noisy places and the other requiring absolute quiet for the best hearing; the former class comprising, in general, cases of a catarrhal nature and the latter cases of nervous character. The condition known as *paracusis Willisii* is more, however, than this general ability to hear better in a noisy place. It is a symptom characterizing a more advanced or more pronounced stage of perverted hearing wherein the deafness is extreme unless the hearing is stimulated by an excessive degree of noise. As a symptom it is especially characteristic of sclerosis of the middle ear, although also occurring in the advanced stage of chronic catarrhal inflammation of the middle ear. In either case its advent is most unwelcome to the aurist, as it marks a condition of the ear which is intractable and exceedingly unsatisfactory to treat.

The explanations of this phenomenon which are commonly received are either that the chain of ossicles, the function of which is to transmit sound-vibrations from the exterior to the oval window, has become stiffened and ankylosed and incapable of exercising its function perfectly except when it becomes temporarily limbered up by the shaking and jarring occasioned by a loud noise, or else that the auditory nerve has become so torpid as not to take cognizance of ordinary sound vibrations until aroused to temporary activity under the stimulus of a noise which, for a time, increases its irritability. The former explanation, that of Politzer, is most generally accepted. Since mastoid operations have become so frequent, however, there have been recorded cases in which all the ordinary features of *paracusis Willisii* have been present and yet in which the chain of ossicles has been wholly absent—nothing remaining but the stapes and its muscle,

the stapedius muscle. This apparently rules out of court any participation of the tympanic membrane, the malleus, the incus, and the tensor tympani muscle, and throws the explanation of paracusis Willisii upon the ground of the torpid acoustic nerve, or upon some new ground altogether. As there are several objections to the acceptance of the nerve theory, as commonly explained, there is likely to arise a new theory, as suggested in a recent pamphlet by Heath, of London, based upon these operated cases in which all the mechanism of the middle ear, with the exception of the stapes and stapedius muscles, has been removed, and in which, in spite of this, the phenomenon of paracusis Willisii has still been observed. It is the function of the stapedius muscle, acting upon the stapes and tilting in its foot-plate at its insertion in the oval window, to raise the tension in the inter-labyrinthine fluid. It is quite conceivable that in cases where paracusis Willisii is present the sound-vibrations, as ordinarily conducted to the labyrinth, fail to produce their effect upon the structures within it, or, on the other hand, that the terminal filaments of the auditory nerve in the labyrinth fail to respond to the sound-vibrations which enter it, simply because *the tension of the inter-labyrinthine fluid is at fault*—and that the necessary adjustment of tension is produced by the contraction of the stapedius muscle, this being thrown into activity by the stimulating effect of the noise upon its innervation.

This explanation, as to tension, is prefigured by the following paragraph which I find in one of our latest works upon the ear: "It (paracusis Willisii) may occur when there is excessive laxity of membrane and ossicle, in which case the phenomenon is removed by tightening the membrane by collodion or using an oiled or glycerined tampon."

PARACUSIS LOCI.—There is a disturbance of hearing in which it is difficult for a person to determine the direction from which a sound proceeds. This is called *paracusis loci*. While crossing a city street an auto-horn, for instance, is plainly heard, but it is impossible to judge quickly and accurately from which direction the automobile is approaching. Frequently it is looked for on the opposite side from that on which it is really coming. Or a sportsman in the woods hears some sound from the game he is hunting but cannot tell where to look for it. This is only an apparent anomaly of hearing, however, since the whole trouble is due to the deafness, partial or complete, of one ear. When a sound is heard only in one ear, or much more loudly in

one ear than the other, the direction of the sound is apparently from the side of the better ear.

HYPERACUSIS.—A frequent abnormality of hearing is when the sense becomes too keen. Unusual qualities are perceived in ordinary sounds, loud noises become painful, and high pitched voices, in particular, become irritating in the extreme. This is called *hyperacusis*, or *paracusis acris*, or *hyperæsthesia acoustica*. The auditory nerve is abnormally irritable in this condition and the other sensory nerves are likely to participate, with accompanying oversensitiveness of sight, smell, taste and touch. This condition obtains in hysterical patients, in neurasthenics, after abuse of alcohol and tobacco, after opium narcosis and chloroform anæsthesia, during hypnosis, in consequence of migraine and insomnia, and may be an early symptom of meningeal or cerebral inflammation, or some impending fever. Often, however, the condition is a temporary one which is readily responsive to general hygienic measures and to internal medication.

DIPLACUSIS DYSHARMONICA.—There is an abnormal state of hearing, especially distressing to musicians or those with highly cultivated ears, in which sounds are heard double. The two notes or tones are heard at the same time, but one is either higher or lower in pitch than the normal, the dissonance being usually referred to one side. This is called *diplacusis dysharmonica*, or *paracusis duplex*. It may apply to a whole range of sounds, as in speech, or, as is more frequently the case, it may involve only a few notes, or a single note. The false notes may vary from the true not only in pitch but in the quality of their tone. It is met with in some affections of the middle ear, as acute inflammation, serous accumulation and chronic suppuration, but it is highly probable that there is labyrinthine complication in these cases. It has occurred in syphilitic cases involving the internal ear. Concussion, affecting the labyrinth, has given rise to this symptom and also chloroform anæsthesia as an after effect.

The only satisfactory explanation of diplacusis refers its cause to changes in the cochlea which involves the membrana basilaris. A concise statement of the generally accepted theory is given by Hovell, of London, and for a few sentences I will quote him. "The stretched radial fibres of the membrana basilaris, in which Corti's organ is placed * * * are regarded as vibrating threads. Thus a string-like fiber of the membrana basilaris, which is capable of vibrating, corresponds to every possible single tone. With a normal condition

of the organ of hearing on both sides, a given note throws into vibration corresponding fibers of the basilar membrane, and the proper sound is perceived. When, however, the membrane is more tense on one side than on the other, its pitch becomes raised in proportion to the increased tension, so that a fibre, or a series of fibers, which normally makes 300 vibrations in a second, may execute 350 in the same space of time. When a note corresponding with the latter number is sounded, the healthy ear perceives it correctly, but in the diseased ear fibers receiving the impression transmit it to the portion of the sensorium accustomed to receive 300 vibrations and double hearing is the result."

A number of cases of diplacusis dysharmonica have come under my own observation. One was that of a young man, nervously high strung but generally in perfect health, who observed one day a peculiarly unnatural condition of the left ear when people were speaking. This was entirely indefinite until he happened to whistle, when he heard one or two split notes, referred to the left ear. As often as he returned to those notes they always sounded double, with a peculiar, vibrating dissonance which was exceedingly disagreeable. Attending this condition was the familiar symptom of sensitiveness of the left meatus and tympanic membrane as to cold air—the sensation as though the meatus were too large and too open and that the air blew directly in against the drumhead. From the presence of this symptom alone Mezereum was prescribed, there being no assignable cause for the condition of the ear and a total dearth of any other symptoms. Although the diplacusis had been present for a couple of days it disappeared wholly after a few doses of the Mezereum had been taken, together with the sensation as though the canal were too open to the air, and there was no recurrence. Of course without further corroboration it is frankly open to question whether the medicine had anything to do with the disappearance of the diplacusis—but as regards the associated symptoms I have no doubt of its efficiency from frequent experience.

It is possible that the iodide of potash may be applicable, in homœopathic dilution, to the treatment of this condition. I make this assertion solely on account of the following case which I have come across, reported by Dr. Moos, of Heidelberg: "The patient, a man of forty, who had suffered from asthma for a long period, and took for this more than ninety grains (of iodide of potash) daily, during six

weeks, was attacked with severe catarrh accompanied by loss of appetite and troublesome itching in the arms and legs. Next day numbness of the head and double hearing for the notes of the piano appeared, with a difference of half a tone in the double sounds. After the iodide had been suspended for two days, the diplacusis ceased and did not return."

It would be possible for me to cite a series of cases from my own records in which while testing the ears of musically trained patients the difference in the pitch of tuning forks, as perceived by the two ears, has been commented upon. This usually applies to one or two forks only in the series, and may have disappeared by the time the ears are again tested—no practical inconvenience having been noted in the meantime. Such patients are often very deaf and I am inclined to think that moderate and perhaps temporary instances of "double hearing" of this character occur oftener than the books would lead us to suppose. In other instances, within my experience, the diplacusis has been so marked that music is shunned by music loving patients for weeks at a time on account of the apparent discords in organs, pianos, orchestral instruments and even in the voices of singers. I will briefly cite one case of this nature. In December, 1906, the patient, a middle-aged man of markedly nervous organization but in good general health, applied to me for the relief of deafness, of tinnitus like escaping steam and, most of all, of false hearing of an extensive portion of the musical scale. This had already lasted continuously for several months. His condition was the more distressing to him as he was a highly trained musician and a member of one of our prominent amateur choruses. A curious feature was that the falseness of the tone varied somewhat with different instruments—the flute seeming much more out of tune than the piano, for instance. Some tones which were true as to pitch seemed to have what he called "a sharp metallic edge." The deafness of this patient was extreme, of "mixed" character (both middle and internal ears being involved), and of long standing. The testing watch, heard normally at a distance of 40 inches, was not heard at all upon the right side and only on hard pressure upon the left. The loud watch was heard $\frac{1}{8}$ inch right and $\frac{1}{4}$ inch left. The loud whisper was heard 18 inches on the right side and 4 inches on the left.

January, 1907, he reported: "Instruments have not changed yet but voices are not so much out of tune as before treatment." All

notes on the piano below D in the second octavo of the treble staff are normal in pitch. This D sounds in the right ear like D in the left ear. The difference of a semi-tone, sharp, continues in the right ear to G at the end of the second octave and then rises till at F, at the end of the third octave, it is a whole tone higher in the right ear than in the left, which remains normal. From this point on up in the scale the difference of a whole tone remains constant. Split notes do not jangle in the ear under any circumstances, but the general dissonance is distressing.

March, 1907, he reported: "Tinnitus has been less, right ear lessened more than the other. Violins and flutes have ceased to be sharp." The hearing for the large watch had risen slowly to 2" right and $\frac{3}{4}$ " left.

April, 1907, he reported: "No false notes at last concert, noises in ears less," and a week later, "hearing voices better. Quite confident false hearing is gone. Piano recital last night and sang Sunday and there was no false note."

Treatment was continued at lengthening intervals, instead of once a week, until August, 1907, when the hearing for the large watch was $6\frac{1}{2}$ " right and 8" left, voices were comfortably heard, tinnitus no longer complained of, and no diplacusis for months. The treatment consisted of the high-frequency current, followed toward the end of the treatments by the Faradic, with very gentle vibration, and internally Strych. phos. 3x, Bell. 2x, Gels. 2x, and finally a return to St. phos. 3x while bringing up the hearing after the diplacusis had ceased.

DIPLACUSIS ECHOICA.—There is another form of double hearing besides that which we have just been considering—a form in which two sounds are heard instead of one, but in which these two sounds are not heard synchronously and are not discordant, as in the condition just described. Instead of that a sound which has been heard and has ceased in one ear is apparently still heard, in the same pitch and quality but prolonged, like an echo, in the opposite ear. This is called *diplacusis echioca*, or "echo-hearing." The cause of this is a hyperæsthesia, or over-stimulation of the sound perceiving apparatus, in the internal ear. Practically these cases are allied to hyperacusis, do not very frequently occur, and are cured by attention to the general overwrought nervous condition of the patient.

DELAYED HEARING.—Contrasted with this, and caused by an oppo-

site condition of the nervous system, is so-called "delayed hearing," in which a distinct interval follows the sound before its conscious perception on the part of the patient. There may be a request, purely from habit, that the word or sentence be repeated but if *not* repeated the answer will eventually come just the same. It is caused, perhaps partly by imperfect hearing, but chiefly by a sluggish state of the sound-perceiving apparatus, and may be closely allied to brain-fag.

DISTANT HEARING.—Another anomalous condition of the hearing is that in which near sounds, like conversation in a room, can only be heard with difficulty and yet some distant sounds, like the striking of a church clock, the bells of a fire alarm, or some passing train, are heard distinctly, though perhaps inaudible to others present whose hearing is normal. This is called "distant bearing," but upon analysis resolves itself into dulness of hearing for one particular class of sounds, like the tones of the speaking voice, associated with hypersensitive perception for sounds of some other class, like the ringing of bells or other mechanical noises. One of the commonest forms, practically, is where the patient, if closely questioned, will be found to be deaf for conversation but is actually annoyed by the rumbling of wheels and other street noises outside the house because they sound so loud. I have met this condition in quite a number of cases and have afforded relief, at least, by prescribing *Chenopodium*. We were led to a knowledge of this action of the drug by a case of poisoning which is detailed in the *Cyclopædia of Drug Pathogenesis*. While this patient had become so deaf that a speaking trumpet was needed to make him hear conversation he promptly heard the sound of the tea bell three stories below his chamber, and "to the astonishment of the family got up and walked directly into the dining room."

ZONAL HEARING.—From time to time during the last twenty-five years some patient has aroused my interest and my curiosity by speaking of hearing sounds from some point of middle distance and again from a greater distance, but not near at hand or in the intermediate zones. It is all very elusive and indefinite and the first few times I heard such a condition hinted at I gave little heed to it. But I have thought often of the experiments I saw carried out some years ago by our Government off Boston light, where several boats at various distances sometimes heard and sometimes did not hear the sound of the steam siren on shore. These experiments resulted in the recognition of zones of sound perception on the water, and in the adoption

on the ships of the United States Navy of the steam siren which slides up and down the musical scale instead of the ordinary single or double whistle, as a fog signal. I have never heard any other observer speak of having noted such a condition in ordinary hearing upon land, and I have never seen it even hinted at in any text book or article which has come under my eye, but from my own fragmentary observations among my patients I suspect that some such anomaly of hearing exists not so very infrequently. A fitting name for this condition would be zonal hearing.

TONE GAPS.—In some labyrinthine affections, which involve the cochlea, a careful testing of the range of hearing for musical tones, by means of forks, vibrating rods, whistles, organ reeds or the ordinary piano keyboard, will reveal sections of the musical scale which are not perceived by the patient—a few notes which when sounded arouse no response whatever on the part of the ear, which rests in silence. These are called “tone gaps.” I had reason not long ago to suspect that such a condition would be found by one of my patients whose cochlea was diseased. Careful testing at the piano proved that F, G, A and B in the middle octave, and the entire octave above, were absolutely missing.

TONE ISLANDS.—In cases of extreme nerve deafness, especially when congenital, where the patient is practically a deaf-mute, careful testing will sometimes reveal a small section of the cochlea which will still functionate. A few consecutive notes can still be perceived, and this little hearing area is called a “tone island.” Sounds attuned to this area may be made use of in the education of these patients, as well as a means of attracting attention and of ordinary communication.

COLOR HEARING.—In some individuals, physiologically healthy, there is a constant and definite association between sound and color. This is called “colored audition” or color hearing. Vocal tones give rise, in general, to sensations of dark colors when they are deep and heavy, to shades of brown when they are of medium range, and various light colors in the soprano register. The tones of the various musical instruments give rise to color sensations which follow the same rule. The several notes of the musical scale evoke definite color tints. The letters of the alphabet usually induce color perception only when spoken. The vowel sounds, as a rule, produce the sensations of primitive color, while the consonants usually are associated only with gray or undefined shades. The colors most frequently produced are

red, yellow and brown and less frequently violet and green. When words cause color perception the meaning of the word has no relation to the color produced but, as a rule, simply the vocal sound or sounds which the word contains. Noises, as a rule, do not induce color sensations, but when they do the color is commonly gray. Color hearing is most common and most highly developed in childhood, and usually lessens and finally disappears entirely as the child grows into adult life. The cause is variously attributed to "association of ideas," to "exaggerated cerebral irritability" and to a "physiological correlation of the organs of sense."

ACOUSMA.—Finally a word, in closing this already too lengthy paper, in regard to the condition called "acousma," in which real sounds or subjective noises become confused in the patient's perception with imaginary sounds or voices, and the merging of the two gives rise finally to auditory hallucinations. We all know the significance of this as an early indication of impending mental perversion.

DISCUSSION.

J. A. CAMPBELL: I had an aural vertigo some years ago; it was the result of an attack of grippe and going to work before I was thoroughly recovered. There was vertigo and vomiting; it took some twelve months before I entirely got over it. I looked up all the authorities about it but got little consolation from them. It left a chronic congestion of the internal ear which shows a little even now when I get too much fatigued.

G. W. MACKENZIE: The paper is worthy of recognition for its merit. The field is covered so thoroughly that there is nothing left for us to say except to commend it.

Specialization Extraordinary. A poor woman from the East Side of New York went to the nearest dispensary to ask aid for her little son, who had one of his fingers mashed with a base ball bat. At the first room where she applied she was told by a curt attendant that the boy could not be treated there.

"Wrong place," he explained; "this is the eye and ear department."

"Vere is der thumb and finger department?" inquired the woman, simply.

TREATMENT OF CONGENITAL AMBLYOPIA.

JAMES A. CAMPBELL, M. D.,

St. Louis, Mo.

THERE is a certain small group of eye patients, which we meet from time to time, characterized by congenital defective vision, which seems to be the result of faulty development of the eye as a visual organ, which is often associated with other evidences of diminished brain activity and mental acuteness, as well as refractive errors.

Examination of such eyes shows anomalies of refraction, more frequently hyperopia, or mixed astigmatism, and sometimes corneal or lens defects will be found, and always the optic discs will be more or less abnormal, being irregular in shape and off-colored. To complete the picture there is a large size angular head, and the general osseous frame seems to be over-developed.

Examination of such cases will show a decided diminution in visual acuity, and usually one eye will be found better than the other.

A certain amount of improvement can be obtained by carefully selected glasses, but seldom does this improvement reach anywhere near the normal state. It is to the treatment of this class of cases I wish to call your attention.

Recognizing that the cause of the trouble is a congenital lack of development, many are contented to secure the best possible help with glasses, and accept it as a foregone conclusion that no more can be done. But looking back through long years of observation and opportunity, I recall case after case where decided improvement has resulted from general and local treatment, extending through several years.

Without tedious reiteration, let me outline a few such cases.

Twenty-five years ago a boy 8 years old was brought to me, a perfect example of the picture given above. With the right eye he could see test type 200 at one foot. No glass improved. Vision of left eye was 15/200. There was a blurred oval off-colored disc in both eyes. Large prominent forehead. There was a marked degree of mental hebetude. He was slow of speech and movement. He was put on Calc. phos. 6x three times daily. In two months V. R.

= 2/200. Left eye 15/70. The same internal treatment was continued with slow but certain improvement. After six months V. R. = 15/200; L. eye = 15/30. Then a + 6.50 s = + 87 c axis 140 gave the L. eye 15/30 and + 6.s helped the right somewhat. With an occasional inter-current remedy, Calc. phos. 6x was kept up for several years. The final result was 15/30 with right eye, and 15/20 with the left, with ability to read J.3 at 13 inches.

Similar cases with positive results under the same line of treatment could be recorded, but I will relate only one more, of recent date, to illustrate my contention.

Mrs. S., age 46, had always had weak eyes. Vision never good. Could not find proper glasses. Two brothers had similar eyes. Examination showed V. R. 15/40. With + .50 s = + 2 c. ax. 15 = 15/30. V. L. = 15/70; with + 1.s = + 3.c ax. 120 = 15/30. Both optic nerves were off color, a dull yellow with whitish ring around, but no cupping. The discs were irregular in shape.

She was given the above glasses and Calc. phos. 6x, together with ocular massage. She did not have regular treatment, but the Calc. phos. was kept up.

In 1911 her vision was 15/20. In 1912 it was 15/15 with the same glasses given in the beginning. She has an occasional treatment and some internal remedy from time to time.

I can recall a number of like cases, where a similar line of treatment, in addition to glasses, has brought about decided improvement, but these are sufficient to illustrate the subject. We know that schools for defective mentality are yielding good results from general hygienic surroundings and educational methods. We know that cretinism has been helped by internal remedial agents. And these cases I present with others that might be offered, prove that these conditions affecting the eye are likewise susceptible to improvement.

I may add that many of these cases are affected favorably by emulsions with hypophosphites of lime and soda.

A CONSIDERATION OF SOME OF THE NEUROTIC CONDITIONS OF THE NOSE AND THROAT.*

GEORGE B. RICE, M. D.,

San Francisco, Cal.

IN this age of introspection and self-analyzation; when the layman is diagnosing pathological conditions, or denying their existence; when physicians are looked upon by the radical devotees of mental healing as a menace to society, the necessity for a careful consideration and study of the subjective and objective manifestations of neurotic disturbances become more than ordinarily obvious, and we cannot leave this branch of medical science entirely in the competent hands of neurologists.

In considering the subject assigned me, I thought that I would depart from the routine method of treating it, not attempting to cover the whole subject of etiology, symptomatology, pathology, diagnosis and treatment, but to call to your attention some of the symptoms the laryngologist and rhinologist is called upon to treat, and to trace these symptoms to their underlying cause, so far as possible, giving a short outline of the treatment found most satisfactory to myself. In this way it is hoped your attention will be called to the value of these symptoms as aids in general diagnosis.

The symptom which comes first to my mind, because of its great significance and distressing character, is laryngeal spasm. Authorities recognize two forms, tonic and clonic, and further divide the tonic form into spasms of central origin, such as dorsalis, tetanus and hydrophobia; tonic spasm from irritation of the trunk of the recurrent laryngeal nerve, such as traumatism, pressure from the aneurism of the arch of the aorta, pleuritic adhesion about the apex of the right lung, or from tumors of the mediastinal glands, and lastly tonic spasms from reflex irritation. Examples of the latter are, irritation of the larynx or fauces, abnormal nasal pressure, and a great variety of causes remote from the larynx. Clonic spasms of the laryngeal muscles are recognized as being always of central origin.

Three cases on my record books stand forth clearly as illustrative of three different types of this affection.

*Read before the O., O. and L. Society, June 28, 1914.

CASE 1.—Mr. W., age 48, a clarionet player in one of the large orchestras of this city, consulted me October 8, 1904, for severe attacks of laryngeal spasm coming on at varying periods, but particularly at night, arousing him suddenly from sleep. These spasms had become so frequent and so exhausting that previously to coming to my office he had found it necessary to give up his position in the orchestra. An inspection of the larynx revealed nothing, and no attack was induced by the examination. The case was gone over as thoroughly as possible, and it was found that his station was defective, his knee reflexes absent, and there was demonstrated the pupillary rigidity known as "Argyl-Robertson phenomenon." I am aware that the authorities mention laryngeal spasm as a symptom of the later stages of *tabes dorsalis*, but notwithstanding this fact these prominent signs led me to suspect the disease in my patient's case, and this diagnosis was confirmed the next day by a neurologist whose opinion you would not question.

The points of particular interest in this case were that the patient was in fair general health, and suffered more from fear and loss of sleep than from any other apparent cause, and that the diagnosis of *tabes* had not before been made.

CASE 2.—Miss S., age 38, housekeeper, consulted me January 12, 1907, for laryngeal spasms and a partial loss of voice. Examination of the larynx showed fixation of the left vocal band in the position of adduction, a slight spasm occurring during the examination. After the usual questions had been asked the following information was obtained: Pain in the stomach and upper part of the chest, at times extending into the left arm; shortness of breath on exertion, with frequent attacks of palpitation. On examination of the chest there was noticed dulness on percussion at both apices, and auscultation revealed a distinct murmur at the left infra-clavicular region, extending upward over the carotid vessels. With these and certain other signs a diagnosis of aneurism of the arch of the aorta, or of the left subclavian artery was made, although no tumor was externally visible. A second examination was made a week later with a colleague in consultation, and the diagnosis confirmed. I should not present this case as one of aneurism had not I received a letter six months later from a physician who had been called to see her during a visit to New Hampshire, who stated that the patient had grown steadily worse, and at the time of his letter a distinct tumor was visible over the

aortic arch. Three months after this I learned that the patient had suddenly passed away, supposedly from a rupture of the aneurism.

CASE 3.—Was seen during my service at the Massachusetts Homœopathic Hospital on November 19, 1907. The patient was a mining engineer, 54 years of age, who previously to these attacks of laryngeal spasm had enjoyed perfect health. The first spasm occurred at night while in a camp in the far west. These increased in frequency, so that three or four severe attacks would occur every night, causing apprehension, loss of sleep and great bodily and nervous exhaustion. He had consulted physicians in several western towns, and failing to obtain relief, came east and entered our hospital. I could obtain no subjective symptoms except the one of laryngeal spasm. The larynx was perfectly normal in appearance, and his voice was normal. As he had been working unremittingly for a number of years, and had been irregular at times in eating, with insufficient sleep, I attributed the condition to nervous exhaustion, and believed that rest in bed for a time, with a good generous diet would bring about relief. *Cuprum metallicum* 3x was given as the remedy apparently best indicated. The patient did not improve, however, and the attacks became so frequent and alarming that, on the advice of the hospital neurologist, enough potassium bromide was given to control the spasms. An examination of the urine was made soon after the patient came to the hospital, but through some mistake the report was lost or mislaid, and there was a delay of some days before a correct report could be obtained. This was interpreted by the specialist in urinary diseases (Dr. Blodget) as indicating "renal insufficiency," and the case was placed in his care. The patient was put on a strict diet, with the result that relief was soon obtained, the bromide withdrawn, and the patient discharged December 3d. Subsequent information seemed to confirm the diagnosis of renal insufficiency with resulting toxemia, as permanent relief was obtained.

A number of less interesting cases of a more purely functional character could be cited did time permit.

Another symptom to which I wish to call your attention is sneezing. Sneezing is a common expression of nasal irritation, but it is only of particular significance when violent, paroxysmal, accompanied with coryza, with more or less obstruction to nasal respiration at the time of the attack or immediately following. The act of sneezing is supposed to be nature's effort to rid the nasal passages of something which simulated a foreign body.

It will be remembered that the inferior turbinals, part of the middle turbinal, and a portion of the septum are furnished with a peculiar submucous structure known as erectile tissue. In the normal person this erectile tissue expands and contracts under the immediate control of the vasomotor nerves during varying atmospheric, climatic and other conditions, that the nasal tissues may always present the proper conditions for the purifying, moistening and warming of the inspired air.

Local abnormalities, such as sinusitis, deflections of the septum, nasal spurs, ridges, polypoid or fibrous tumors, which tend to produce abnormal contact with the turbinals on expansion of the erectile tissue result in certain cases in sneezing, with coryza and tumefaction. Now we know that in certain other individuals the sinusitis, local tumors, ridges, spurs or tumefactions may exist without producing any marked result except perhaps obstruction to nasal respiration.

We infer from this that something more than local pathological changes must exist to produce hyperæsthetic rhinitis. Authorities teach that to produce an attack of what is commonly termed "hay fever" there must usually exist: 1st, the neurotic temperament; 2d, the local tissue change; 3d, the external exciting cause, such as dust from animals or plants, pollens or exposure to dampness, cold or impure air. In a certain number of cases the second condition does not exist, and we have left the neurotic temperament as the sole underlying cause. Now the nasal symptoms may be the *only* expression of this neurotic temperament, examine the patient as we may. What is this neurotic temperament? What causes it? How can it be corrected? It is difficult to define. Some claim that it is due to the faulty metabolism, whereby certain toxic substances are liberated in the blood, some say loss of nerve force, and others increased nervous energy.

One authority (Ballenger) says: "The treatment of this neurosis of modern civilization is an undertaking calculated to bewilder all but the veriest enthusiast. We are in a domain of pathological entities, whose forms are shadowy, and whose definitions are obscure. We are dealing with unknown qualities, upon hypotheses not yet proved." In view of these statements we must necessarily take great pains in individualizing our cases, and by individualizing I mean, of course, the discovery of the symptoms *peculiar* to the patient, and adapting the treatment to these. This is an old Hahnemann precept, but it cannot be repeated too frequently.

For instance, Mr. O. came to me June 14, 1896, suffering from continued nasal obstruction, with violent attacks of sneezing, coryza and lachrymation in the early fall of the year. He was practically cured by the removal of polyps and septal irregularities, and by immunizing him with a tincture made of the different varieties of golden rod; this plant having been found to be the cause of the fall irritation. The process of immunization was carried out each year, three weeks previously to his expected attacks, ten to fifteen drops five times a day proving sufficient. In this case no definite hyperæsthetic spots could be determined, the whole nasal mucosa being in a highly irritable state.

Miss C. who came to me July 31, 1893, a chronic sufferer from hyperæsthetic rhinitis, was also practically cured by methods employed to increase elimination, that is, care of diet, and of the eliminating organs, by the apparently indicated remedy and by cauterization of hyperæsthetic spots which could be definitely determined.

Mrs. S., a sufferer for years from chronic asthma and hyperæsthetic rhinitis, came to me May 17, 1912. She was greatly relieved by the removal of the anterior portion of the middle turbinals, which had undergone polypoid degeneration, deep galvano-cautery of the inferior turbinals, and a complete mucous resection operation of the septum. In this case remedies and other forms of treatment had been tried by various physicians without practical results.

In these cases and many others it has been my effort to regulate, so far as was possible, the patient's habits of life, diet, clothing, environment, care of the skin; attention to these things are of the utmost importance, and should be considered, together with the administration of the indicated remedy, as a matter of routine treatment; at the same time remembering the importance of an accurate diagnosis of the local conditions and adapting the treatment to the individual.

It would seem from the foregoing that the so-called neurotic manifestations will frequently, on analysis, be found to have an underlying definite cause, aside from disturbed nerve centers. If I am not mistaken our neurologists are discovering that it is becoming increasingly difficult to draw a sharp line of demarcation between the so-called functional and the organic neuroses, because increased knowledge and more accurate methods of examination, particularly in the sphere of medicine, have resulted in a new disease nomenclature.

HOMŒOPATHIC MATERIA MEDICA AND THERAPEUTICS.

Ignatia, Iodine, Ipecac, Kali bichromicum, and Kali carbonicum.

JOHN L. MOFFAT, M. D., Ithaca, N. Y.

IGNATIA AMARA. St. Ignatius' Bean.

Objective.—Constant winking with spasmodic action of various facial muscles. Lacrimation with the pain.

Subjective.—Photophobia, intense but fitful. Pain from head into left eye, when the eye began to burn and water. Pressure within the eyes as from sand. In the evening, pain in the inner surface of upper lid as if it were too dry. Sensation as if a particle were in the external canthus.

Vision.—Zigzag and serpentine white flickering at one side of the visual field.

Characteristics.—*Contradictoriness of symptoms and modalities.*

Clinical.—The usefulness of ignatia is confined to nervous, hysterical patients. Cures have been reported of ciliary neuralgia, retinal hyperesthesia, conjunctivitis and corneal ulcer.

IODIUM. Iodine.

Objective.—Sclera dirty yellow. Eyes protrude. Lids edematous. Eyes inflamed as from taking cold.

Subjective.—Pain as from excoriation.

Characteristics.—*Although a ravenous eater the patient is painfully thin. Loves cold air, feels better in it.*

Clinical.—Iodine is to be thought of for *acute exacerbation of chronic inflammation*. Goiter; exophthalmic goiter. Catarrhal conjunctivitis. Acute dacryocystitis; the bluish red inflammation extends under the eye. The late Dr. Jorn F. Gray recommended it for acute phlegmonous dacryocystitis, six drops of compound tincture of iodine in six ounces of water, a dram ("a swallow") taken every hour or two. The homœopathic tincture of iodine may be administered instead.

IPECACUANHA. Ipecac.

Objective.—*Myosis*. Lids twitch.

Subjective.—*Eyes tire from near vision*. Headache on using the eyes.

Vision.—*Approximation of near and far points. The state of vision is constantly changing, becomes suddenly more or less dim every few moments. Everything at a distance hazy, could read moderate size type at one but not at two feet. Nausea from looking at moving objects. Spots before vision.*

Characteristics.—*Spasm of accommodation from irritable weakness*

of the ciliary muscle. Nausea upon near vision. Nausea on looking at moving objects (as out of the car window).

KALI BICHROMICUM. Potassium bichromate. $K_2Cr_2O_7$.

Objective.—Dark rings about the eyes. Lid margins very red. Inflamed eyes with yellow stringy discharge and morning agglutination. Conjunctiva injected, both of lids and ball. Small white conjunctival pustules. *Pustules on left cornea, with surrounding indolent inflammation.* Lacrimation.

Subjective.—Heat and pressure in the eyes. Itching and burning. Eyes smart, < evening and open air. Heavy pain above the eyes, < on motion and from cold. *Aching and fullness in the glabella.* Violent shooting pain from root of nose along left orbital arch to external angle of the eye exactly, with dim sight like a scale on the eye.

Characteristics.—Discharges are *viscid and stringy, usually yellow*, more or less purulent. *The ulcers tend to bore in without spreading laterally, they look as if punched out*, and those in the cornea are *sluggish with very little or no redness and no photophobia.*

Clinical.—Usually pain and lacrimation are absent too. The eye may be quite sensitive to touch. Opacities of the cornea (particularly if yellowish in hue) have been cleared. No remedy has been so successful as kali bichromicum for true "Descemetitis" (without serous iritis) characterized by fine punctate opacities on Descemet's membrane, particularly over the pupil, and *with only moderate irritation* of the eye. This remedy is always to be thought of for chronic indolent inflammation of the eye, as above described, ulcers and pustules of the cornea or conjunctiva. It is also of great value in mild cases of croupous conjunctiva in which the false membrane is loosely adherent, easily detached, and shows a tendency to roll up and separate into shreds which may give the discharge a stringy appearance. Profuse discharge, conjunctiva much inflamed, even to chemosis, lids swollen and maybe hazy cornea have also been relieved.

KALI CARBONICUM. Potassium carbonate. K_2CO_3 .

Objective.—*Swelling, puffiness, between brow and lid, like a sac.* White of eye red, injected. Lacrimation.

Subjective.—Photophobia. *Sharp* tearing in right orbit and in the eye at night. *Stitches* in the middle of the eye. Burning, biting and pressure in the eyes. Pressure above the eyes. Soreness of external canthus with burning pain. Smarting pain in the eye. The eyes are painful on reading.

Vision.—Bright sparks, blue or green spots, before the eyes. Weakness of vision.

Characteristics.—Edema of the lids, especially with *sticking pains.* An important cardiac remedy. Pulse rapid and very weak or irreg-

ular, intermittent. Backache, weakness and sweat. Chilliness from cool air. < 4 a. m.

Clinical.—Asthenopia. Weak sight from excessive sexual indulgence. Small round ulcers without photophobia.

The Action of the Tonsils. To test the therapeutic action of the tonsil, powdered dried tonsils of the calf were employed. The following results were noted: On the circulation it causes a depression, probably due to the action on the muscular structure of the heart. The decreased activity is but temporary. It caused a diuresis very pronounced, and seems to act directly upon the renal cell. It is evidently a stronger diuretic agent than either infundibulin, parathyroid or the pineal gland. It slightly increases intestinal movements. It seemed to increase the activity of uterine contractions. The contractions of the bladder were slightly increased. The subcutaneous injection of the tonsil infusion into a rabbit, caused a fall of temperature of 1.8 degrees in an hour and a half. Although pancreas and prostate extract injected into the jugular vein also cause a fall in blood pressure and cardiac death, the tonsillar extract has an additional diuretic action. The conclusion is warranted that the tonsils probably have an internal secretion.—*Alienist and Neurol.*

CURRENT LITERATURE.

DEPARTMENT EDITORS.

WM. McLEAN, M. D.,
New York.

FRANK O. NAGLE, M. D.,
Philadelphia.

ANNALES DES MALADIES DE L'OREILLE, DU LARYNX, DU NEZ ET DU PHARYNX. Juin.

1. Claudication intermittente du larynx et du jambe droite. J. Garel.

2. Amygdalectomie totale et hémorrhagie postopératoire. Louis Vachet et Maurice Denis.

3. Du traitement chirurgical des sténoses laryngées dues à la position médiane des deux cordes vocales.—A propos du récent travail de Sargnon et Toubert sur cet argument. Citelli.

*4. De l'ostéomyélite du rocher.—Observations nouvelles. L. Bar.

5. Otite externe provoquée d'un perce-oreille dans le conduit auditif. Mosse.

*4. Two cases are reported of this rare disease: Osteomyelitis of the petrous portion of the temporal bone consecutive to a chronic otitis media purulenta; and one evolving scarlatina complicated by double purulent otitis. In the first case: (a boy 10 years old) simple trephining of the mastoid but temporarily ameliorated the condition; in a few days there were evidences of extensive osteitis, the denuded mastoid was necrotic, black and infiltrated with grayish fetid pus, with increasing cachexia. At the second operation, nine days later, the soft friable bone was cleaned out completely as possible and fungosities of the sinus curetted after controlling the hæmorrhage from the ulceration which they had concealed. Still the probe detected necrosis rugosities on the bony wall of the facial canal, also over the semicircular canals, on the floor of the middle ear and toward the styloid apophysis. Within three days there was an increase of temperature to about 101° F. requiring, about nine days later, incisions to release pus from the inflamed cervical glands; this seemed to be leading the way to cure. But four weeks later, although health was apparently restored, there were still atonic bloody

granulations at the point of election for opening the antrum; there the probe seemed to lose itself in the depths until it revealed a bony crepitation. A month and a half later there appeared a facial paralysis of that side, and increased, warranting fears for the future despite the general good health of the boy.

Abrupt attack and progressive invasion characterize this variety of osteomyelitis. The second case reminds one of a true "bone apoplexy."

Case 2. A boy, aged 7, in full scarlatina, was seized a couple of days ago with double otorrhea and the next day complained of pain behind the right ear. In a few hours (day of examination) the region was already edematous, the pain worse. Drainage was good; temperature around 39° C. Early the next day operation showed the mastoid exsanguinated, dull (mat) and deprived of vitality. Trephining was like operating the cadaver, and brought very little pus; bone necrosis was clearly defined as to the trabeculæ which seemed empty and friable. There was no further invasion. A superficial sequestrum of the entire mastoid region, formed by subjacent granulations, limited itself in a year, after which it was removed. The patient's cure was complete in all points, despite a lymphatic habit and suspicion of tubercular heredity.

In some cases, happily rare, this osteomyelitis will continue its course in spite of prompt and the most radical operation. It advances by bone continuity and by vascular paths and penetrates deeper and deeper threatening facial paralysis, pachymeningitis, abscess of the brain and of the cerebellum, and sinus thrombosis, principally of the lateral sinus. Finally, after a progress essentially remittent, with a lull after each intervention, the disease reaches a fatal issue which cannot be prevented by the most extended operations.

J. L. M.

REVUE GENERALE D'OPHTALMOLOGIE. 31 Juillet.

Rayons X et oeil normal.

Long Island Medical Journal. Aug.

- *7. Hereditary Syphilis in the Ear. J. E. Sheppard.
- *8. Hereditary Syphilis in the Nose and Throat. Claude G. Crane.
- *7. In children the auditory manifestations of hereditary syphilis are subjective symptoms of internal ear disease in general; in them-

selves they are not pathognomonic of syphilitic affection of auditory nerve structures. Children are more prone to this when about four to six years old and again about puberty; at this latter age girls are more often affected than boys. It is usually bilateral and almost always the prognosis for hearing is bad.

*8. This may be secondary or tertiary; the secondary form may be present at birth, or may be delayed as late as the sixth month. The tertiary may follow the secondary immediately, but often is not recognized until the fifth or sixth year. There may be no evidence before second dentition or puberty. The most common secondary lesion is "the snuffles;" it may be present at birth or not appear until the third or sixth week. The white radiating scars following fissures of the anterior nares are very characteristic.

A tertiary ulcer may perforate the cartilaginous septum; the turbinates are not so often involved by either ulcer or gumma. Atrophic rhinitis is probably a result of syphilitic infection in the nose in infancy.

In the fauces and pharynx the secondary stage shows itself as an erythema or mucous patches. The tertiary is usually a diffuse gumma with ulceration and destruction of the soft palate; the resultant scar and contraction cause malformation and even occlusion which may be complete between the soft palate and the posterior pharyngeal wall. The larynx is less frequently involved in congenital syphilis than the nose, fauces and pharynx. Gumma of the larynx does not belong to childhood. The importance of early diagnosis of congenital syphilis (of the nose and throat) cannot be too strongly emphasized.

J. L. M.

NEW YORK STATE JOURNAL OF MEDICINE. August.

*3. Cavernous sinus thrombosis. Case report and surgical study. Thomas R. Pooley.

7. Need of more accurate knowledge in the diagnosis of mastoiditis by the general practitioner. James F. McCaw.

*3. This paper is worth studying; no abstract can do it justice.

NORTH AMERICAN JOURNAL OF HOMŒOPATHY. September.

3. Hæmorrhage after tonsil operation. H. Leland Fifield.

J. L. M.

LONG ISLAND MEDICAL JOURNAL, September.

2. Exophthalmic Goitre; Its Pathology. Alexander Fraser.

NEW YORK STATE JOURNAL OF MEDICINE. September.

6. Intraocular sarcoma. Walter E. Weidler.
7. Some sociological aspects of ophthalmology. Ellice M. Alger.
8. Surgery of the maxillary antrum, external route. Stephen H. Lutz.
9. Surgery of the maxillary sinus, intranasal route. Lee M. Hurd.
*10. Correction of nasal deformities by the injection of paraffin. Harmon Smith.

*10. Paraffin injection has been largely supplanted by the bridge-splint operation and the subcutaneous insertion of bone. Cases must be selected very carefully; avoid active syphilis; also a nose flattened downward and outward from removal of too much tissue in the septum operation; third, scar tissue with tense skin—the constant pressure would squeeze out the paraffin from its proper place; diabetic, nephritic and tuberculous cases. Children's noses usually have not assumed their ultimate shape. Use aseptic non-irritating paraffin of 110° F. melting point. The former method of injecting paraffin in liquid form may be considered criminal negligence. Anesthesia is unnecessary, cocain injection is as painful as that of paraffin. The injection must be made toward the tip of the nose, and an aseptic assistant presses with the balls of his thumbs upon the nasal bones to guard the eyes. The permanent redness which is said to follow is due to injection into rather than beneath the skin. Do not repeat the injection under two weeks. Close the needle entrance with collodion and apply iced cloths for fifteen or twenty minutes immediately after the injection to fix the paraffin temporarily, then keep the patient quiet for a few days until the encapsulating inflammation fixes it.

J. L. M.

ABSTRACTS.

LE PRONOSTIC DU GLAUCOME AIGU.

Annals D'Oculist, cli, Prager, '79.

Morax and Sourriere outline the prognosis of acute gdaucoma from statistics covering the last ten years from the Lariboisire clinics.

There were 56 cases, 9 men, 47 women. In 32 cases both eyes were diseased, so that in total 85 eyes were glaucomatous.

The classical iridectomy was performed 57 times with the Graefe knife, 16 times with the lance. The sklerekto iridektomie (La Grange, Holth, Elliot) was performed 12 times.

A difference between the workings of iridectomy and sclerecto-iridectomy could not be found as to their permanent results. However, the immediate results from the operations made no appreciable difference.

There were 17 cases available for statistical purposes as to the permanent results of operations.

Four cases operated nine years previous had visual acuity of 5/12-5/20. Tension, 18-31 m.

Of five cases of 5 to 9 years' observation, two cases showed visual acuity very poor, probably because they were operated late.

Of seven cases operated two to four years previous, 4 cases gave bad results because of lateness in performing the iridectomy and serious vascular changes being present.

La Grange. De la methode fistules anti-dans le cure glaucome chronique. *Annals D'Oculist*, XXXIV, pages 71-85.

La Grange discusses fistula formation in chronic glaucoma and the best methods to obtain the same. First of all one must operate only in the sclera, as this tissue is unchangeable and does not proliferate, whereas the cornea wounds quickly regenerate.

According to the Elliot method, to avoid the ciliary body we must incise the cornea; the best incision is to incise the scleral zone at the filtration angle.

According to La Grange an incision is made at the limbus with a very fine Graefe knife, cutting away the iris from the root and then cutting the tendon of the ciliary muscle in order to establish a com-

munication between the choroidal space and the anterior chamber. An incision of a scleral flap is made 1 mm. wide, 2-3 mm. long, directly on the ciliary body. When sclerectomy is applied only to cases of chronic glaucoma no complications occurred. Out of 345 sclerectomies there were 5 mishaps, whereas in 66 cases of Elliot's there were 12 complications.

Again La Grange claims that the tension is apt to remain normal more permanently.

Kuhnt. Zur therapie des Ulcus Corneæ Serpens. *Medizenische Clinic*, No. 8.

Kuhnt also reports good success with Ethylhydrocupreine in serpigenous ulcer. He instills a one per cent. solution hourly and states that within 24 hours the pneumococci are destroyed.

Bahr. Erfahrungen ueber die Behandlung, von Hornhau geschwüren und Wund enfekstionen am auge mit Iodtinktur. *Klin. Monatsblätter*, Jan., 1914.

During the past seven years 500 cases of corneal ulcers were treated by applying Iodine to the wound. Bahr claims the scar is smaller than with the galvanic cautery.

Shoute. Die behandlung von Ulcus Serpens Corneæ mit Zincum Salicylatum.

A report of 5 cases of ulcer serpens and 2 cases of disciform keratitis is given with the treatment: namely, hourly instillations of Zinc salicylate.

In the discussion Zeeman reported the results of 35 cases of serpigenous ulcers from the Amsterdam clinic.

There were 15 mild cases treated at first conservatively, but eventually 5 of these cases had to have the Saemisch corneal incision.

There were 2 severe cases of diplo-bacillus keratitis treated successfully with ten per cent. Zinc. sulph.

Of 12 cases cauterized 5 healed immediately, the remaining 7 cases had to have surgical treatment.

According to Zeeman simple puncture of the ulcer is of little value. Even cauterization is not so good as the Saemisch incision.

Darier. Un sel de quinine bacteriotrope du pneumocoque Ethylhydrocupreine contra l'ulceri infectieux de la cornee.

Darier reports favorable experiences with the use of ethylhydrocupreine for the treatment of ulcus serpens corneæ. In 3 cases immediate action was secured. It may be applied in a powder form directly

to the ulcer, or a 1 to 2 per cent. solution in oil, instilled. This preparation possesses a specific chemical therapeutic action upon the pneumococci; it also acts favorably in the production of antibodies.

Staphylococci are not influenced by ethylhydrocupreine. It has a special affinity for the pneumococci.

The usual technique employed was cocainizing the eye and applying the solution upon a pledget of cotton directly to the ulcer, repeating this every hour.

With the diplo-bacillus serpigenuous ulcer, Darier found best results with 10 per cent. zinc sulphate.

F. O. NAGLE.

NEWS ITEMS.

Dr. Charles Helfrich, wife and child, returned from England about September 20th. Their trip on the Continent was but fairly started when the war began. The last several weeks have been spent in Scotland.

Dr. A. B. Norton was to have cultivated a French style of golf this summer on the links about Paris. Early in August, however, the Ministry of War decided to let the grass grow long on the fair green, and as from habit Norton was fully familiar with the rough, he went to England.

The clinic of the New York Ophthalmic Hospital has been entirely refurnished during the summer, and new dark rooms constructed for examinations of the eye and ear. They have also installed a new ophthalmometer, the Universal, the latest perimeter (Hare's) with automatic registry and color disk changer, and a new phoro-optometer.

Dr. DeWayne Hallett was recently elected to the Board of Directors.

Dr. John J. McDermott, of Ann Arbor, is giving excellent satisfaction as house physician.

Dr. Walter M. Oliver is now junior house surgeon.

BOOK REVIEWS.

A MANUAL OF DISEASES OF THE NOSE AND THROAT. By CORNELIUS G. COAKLEY, A. M., M. D., Clinical Professor of Laryngology, College of Physicians and Surgeons, Columbia University, New York, etc. *Fifth edition*, revised and enlarged. 615 pages, with 139 engravings and 7 colored plates. $8\frac{1}{8} \times 5\frac{1}{4} \times 1\frac{1}{2}$ ". Cloth, \$2.75, net. Lea & Febiger. Philadelphia and New York. 1914.

Another edition of this favorite manual testifies to its popularity. Attention has been paid to microscopical and bacterial diagnosis, and treatment has been limited to measures recommended by the author.

We can hardly say that the book has been brought thoroughly up to date, for no allusion is made to the well known relation of eye and nose diseases; the connection of their respective blood and lymphatic systems should be given. The student to-day has a right to such instruction.

We are surprised that no mention is made of any local anesthetic except cocain (which, by the way, is still unrevised, the final e being retained).

The student and practitioner should know about novocain, halocain, alypin, chinosol and also of quinine and urea hydrochlorid; he might be interested in the author's objections to the use of these local anesthetics.

We respectfully suggest that in the next edition attention will be paid to *extraction* of the postnasal tampon, which is sometimes anything but simple—particularly when inserted (as in the text) without a string left through the mouth by which to withdraw it. Of course, the specialist needs only his postnasal forceps—plus cocain-adrenalin?—but the country practitioner, and eventually the patient, will, at times, be glad the withdrawing string has been provided.

The publisher's part is very well performed.—J. L. Moffat.

DISEASES OF THE NOSE, THROAT AND EAR. *Fourth edition, revised and enlarged*. By WILLIAM LINCOLN BALLENGER, M. D., Professor of Otology, Rhinology and Laryngology, College of Physicians and Surgeons, University of Illinois, Chicago; Fellow of the American Laryngological Association, of the American Laryngological, Rhinological and Otological Association, and of the American Academy of Ophthalmology and Otolaryngology. Octavo, 1,080 pages, $9\frac{3}{4} \times 6\frac{1}{4} \times 2\frac{1}{4}$ ", with 536 engravings, mostly original, and 33 plates. Cloth, \$5.50, net. Lea & Febiger. Philadelphia and New York. 1914.

To those already familiar with this fine book (and who is not?), we call attention, in the new matter, to: the twelve drawings which

illustrate the Newman and Hinsberg labyrinth operations; the five drawings showing each step of Mosher's fronto-ethmoid operation, and as many more illustrating the technique of Haynes' operation on the cisterna magna. Nystagmus is clearly explained with ten original colored plates which diagrammatically impress upon the memory the rationale of nystagmus in its various reactions. Vaccine therapy has been revised and the His leucocyte-extract therapy (for infections of the sinuses and meninges) given in detail. This volume is one hundred pages larger than the last edition (mostly on the labyrinth), with about thirty more text illustrations and eleven new plates.

The admirable chapter on otosclerosis needs to be supplemented by reading Lermoyez on *Otospongiosis* in the May issue of *Annales des Maladies de l'Oreille, du Larynx, du Nez et du Pharynx* (abstracted upon page 358 of the August number of this JOURNAL). Ballenger credits Siebenmann with designating the new formation as spongification, but ignores Ostmann's proposition to name this disease *Otospongiosis* rather than otosclerosis. Lermoyez's article is quite convincing for this new terminology; indeed it seems quite substantiated by our author's presentation of the subject.

We are glad to see that the ocular symptoms of sinusitis are given on five separate pages, and on four other pages we learn of the relation of the eye to nose, throat and ear, while two more pages are devoted to diseases of the eye due to nasal lesions. Instillations of India ink demonstration the exact route from the lymphatics of the nasal mucosa into the ethmoid cells and the lamina papyracea, thence into Tenon's capsule and on into the eyeball.—J. L. Moffat.

ANOCI-ASSOCIATION. By GEORGE W. CRILE, M. D., Professor of Surgery, School of Medicine, Western Reserve University, Cleveland, and WILLIAM E. LOWER, M. D., Associate Professor of Genito-Urinary Surgery, School of Medicine, Western Reserve University, Cleveland. Octavo of 259 pages, with original illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$3.00, net.

The Journal of Ophthalmology, Otology and Laryngology

Vol. XX

Lancaster, Pa., and Philadelphia, October, 1914

No. 10

EDITORIAL.

CONSERVATISM VERSUS RADICALISM IN THE TREATMENT OF EYE, EAR,
NOSE AND THROAT DISEASES.

THE history of medicine is marked by alternate periods of radicalism and conservatism. The one is the natural sequence of the other, especially when that other has been excessively fostered or indulged. Excessive radicalism is akin to action and is followed by undue amount of conservatism akin to reaction. With all, progress has resulted, but not to the same degree that might have had the one been tempered somewhat with the other.

There is no surer way to thwart progress than for the radical to permit himself to become so enthused with a single idea as to become blind to other well established truths; on the other hand, it is not well for one to become so conservative that he is not open to receive suggestion, even from the most radical.

For every radical who discovers something of real worth, or points out the way to such discovery, there are hundreds of lesser lights and imitators who are ever ready to foist upon us their near or imaginary discoveries. Much valuable time has been necessarily lost to progress in threshing out the grain from the chaff. History is more replete with the records of pseudo discoveries than with actual ones. For the man who uncovers a much vaunted but pseudo discovery there should be a laurel equal to that accorded to the man who makes an actual discovery. I am reminded of Prof. Salzmann who, when asked why he did not write a book on the Pathology of the Eye, replied that he was kept too busy undoing the pretentious discoveries of others.*

Valuable men are they who are independent of the throng and manifest moderate radicalism during conservative periods and those who manifest moderate conservatism during radical periods. Such men do not impede progress as some extreme radicals would have us believe, but rather favor progress. Excessive Radicalism, as practiced

*He has since written an excellent work on the subject.

today by some surgeons, means unnecessary interference without sufficient reason or a regard for anatomical structures. As a result, patients are too frequently left in a condition far worse than that for which they sought relief. I am referring particularly to those cases of sinusitis which are operated radically when more conservative treatment is indicated. If such practice is continued eventually there will come a revolt which spells conservatism, conservatism that may be actually retarding in its effects on progress. The JOURNAL stands for progress, not for the cocksure claims of anyone if those claims are founded on premises which are well known to be false. On the other hand, no attempt will be made to rob anyone of his freedom to express his ideas freely on any subject. The pages of this JOURNAL shall be open alike to those of Conservative and Radical tendency, and especially to those who are versatile enough to take in with their broader field of vision both the conservative and the radical aspect of a subject.

THE present European war has had the effect of closing to the American post-graduate student the opportunity for study abroad. Just how long these schools will be closed is problematical. The effect will be an increased demand for post-graduate work at home.

It will be well, therefore, for the post-graduate schools to prepare themselves by increasing their facilities, by improving their laboratories, by taking on more, and, where possible, better teachers, so that by the time the war is terminated we in America will have built up schools comparable with the best in Europe.

GORGAS FOR THE NATIONAL DEPARTMENT OF HEALTH.

THE *Southern Medical Journal* is instituting a systematic campaign through the medical press for the appointment of Surgeon General Gorgas as Secretary of Health in the President's cabinet.

As to Col. Gorgas the matter is simple—naturally, logically—he will be promoted and then retired as Major General, and he will head the new department of Public Health—if and when it is established.

Every one honors him as the premier sanitarian of the world; he is the one man for this proposed office, and to appoint anyone else but him would be scandalous.

The National Department of Health will without doubt become an accomplished fact—at some time in the future. This will be earlier the sooner the Kahn bill, or, at least, its fundamental principles be enacted; this excellent bill was presented before the last Congress. It is safe to predict that no bill can be enacted for the establishment of a national department of health unless it meets these requirements.

The distinction must be clearly made between sanitation and medicine; the Department of Health may be so named but it must be emphatically limited to sanitation in its scope and powers.

J. L. M.

CORRECTION.

There was an error in the heading of Dr. George B. Rice's article in the September number of the JOURNAL. The address should have been *Boston, Mass.*, and not *San Francisco, Cal.*

DO THE TONOMETERS IN USE TODAY RECORD THE TRUE
INTRAOCULAR TENSION? PRELIMINARY REPORT
AND THE PRESENTATION OF A NEW TONO-
METER.*

WILLIAM McLEAN, M. D.,
New York.

THE question is, do the tonometers in use today indicate the true intraocular tension. My answer to that question, based on the experiments which I have made is, they do not indicate the true intraocular tension.

The purpose of this paper is not to belittle the tonometer nor to decrease its sphere of usefulness as a valuable instrument of precision, but to point out that the result obtained in the translation of the weight curves on the tonometer charts to millimeters of Hg. are not in accordance with known manometer readings.

After having used the Schiotz tonometer for some time, it seemed to me that it possessed some inconveniences in manipulation and possibly some faults of construction. It was to eliminate these that I started about two years ago considering the possibility of another tonometer.

Tonometers have been constructed on the principles of aplanation and of indentation. The aplanation principle involved the placing on the eye a given weight affixed to a flat surface and noting the area of flattening of the eye which occurred. Up to the present time the aplanation tonometer has been unsatisfactory, and, so far as I know, none of that type of instruments has been placed on the market.

After building a tonometer of the indentation type I looked about for a method of testing the instrument.

Quoting from an article by Prof. Schiotz, he says: "A convenient and satisfactory method of testing the tonometer is to employ a cylinder 14 mm. in diameter, closed at one end by rubber dam, the other end being connected by tubing to a manometer."

I tried this method on the Schiotz, the Gradle-Schiotz and my own tonometers and found it altogether too crude and faulty to be of any value.

I next worked out a scheme whereby I could attach the tubing from

*Read at the Twenty-Seventh Annual Meeting of the Amer. Hom. O., O. and L. Soc., Atlantic City, June 30, 1914.

the tonometer direct to an enucleated eye. This gave me fairly good results except that the manometer indicated a pressure considerably in excess of that indicated by the tonometer. A further improvement in the technique was made by the installation of apparatus which I have termed a pulsator. The object of the pulsator is to simulate in the enucleated eye the arterial pulsations given to the living eye by the heart contractions. The apparatus is connected to the tubing extending from the manometer to the enucleated eye and consists of a piston and cylinder attached to an electric motor in such a manner that oscillation of the indicating needle of the tonometer will occur the same as when used on the living subject. This apparatus gave me conditions in the enucleated eye used for testing which very closely resembled those in the living, yet the manometer indicated a tension considerably in excess of the tonometer readings.

I was loath to consider the tonometer at fault, and so consulted a professor of physics of Columbia University. After explaining to him the workings of the tonometer and the testing apparatus I use, he assured me that the apparatus and the testing system were all right, and that the tonometer should indicate the same pressure as the manometer.

The manometer used was a standard Riva Rocci manometer. I tested it with another standard manometer and also with the old style U tube and found it to be accurate.

A glance at the chart will show the variance between the manometer pressure and the registration of the tonometer. The first column of figures represents the height of the mercury column in millimeters, the second the variable readings of the Shiotz tonometers.

CHART No. I.

Manometer Pressure	Readings Made with the Schiotz Tonometer with the Pulsator
110	71, 60, 96, 113, 90, 96, 60, 82, 70.
100	62, 47, 96, 82, 82, 71, 66, 70, 90, 86, 86.
90	46, 76, 62, 81, 71, 76, 66, 65, 47, 78, 90, 78, 70.
80	35, 55, 62, 90, 60, 62, 62, 44, 68, 62, 70, 55, 60, 63, 54, 40.
70	27, 40, 46, 38, 62, 83, 51, 54, 52, 60, 52, 46, 54, 55, 53, 55, 54, 54.
60	25, 20, 41, 35, 46, 76, 44, 47, 28, 44, 43, 55, 44, 51, 45, 49, 43, 46.
50	18, 14, 34, 30, 47, 37, 35, 39, 32, 37, 32, 39, 19, 37, 30, 33, 67, 33, 36, 35, 25.
40	8, 14, 17, 21, 31, 54, 26, 35, 17, 30, 11, 21, 11, 15, 20, 25, 23, 21, 24, 30, 22, 14, 25.
30	22, 13, 11, 12, 11, 12, 4, 8, 11, 6, 19, 13, 10, 15, 5, 15, 24, 12.
20	9, 3, 4, 9, 2, 8, 4, 7, 21, 10, 5.
10	2, 7, 2.

This chart is a summary of readings made on recently enucleated human and pig's eyes. About twenty tests have been made since I adopted the pulsator, a little over four months ago. The tests previous to the use of the pulsator are not included in this chart. I measured the corneae of the eyes used and found the pig's cornea quite the same as the human in thickness.

The tonometer readings were made by Drs. Charles Helfrich, G. DeWayne Hallett, William H. Holzapfel and myself. During the readings made by Dr. Helfrich he took the intraocular pressure by finger palpation. The manometer was obscured from his vision so as not to influence his tests. I increased the manometer pressure to twenty millimeters and asked him what he considered the intra-ocular pressure to be. His reply was, "It's only mush." I then increased it to what he considered a normal intra-ocular pressure, and the manometer registered 42 mm. of Hg.

In making these readings I failed to note any greater accuracy by considering only those reading where the indicating needle rested between 2 and 4 on the scale, as suggested by Prof. Schiotz.

CHART No. 2.

Manometer Pressure	Between 2 and 4 on Schiotz Scale	Beyond the Limits of 2 and 4 on the Schiotz Scale
110	71, 60, 96, 90, 96, 60, 82.	113, 70.
100	96, 47, 90, 82, 82, 71, 60.	86, 62, 86, 38, 66, 70.
90	78, 90, 47, 76, 71, 76.	81, 78, 46, 62, 70, 66, 65.
80	90, 60, 44, 60,	63, 70, 62, 62, 35, 62, 55, 62, 55, 68, 54, 40.
70	83, 51, 60, 52,	54, 62, 53, 27, 40, 46, 38, 55, 52, 46, 55, 54, 54, 54.
60	55, 76, 44, 41, 44, 43, 44.	46, 51, 49, 43, 25, 20, 36, 28, 46, 45.
50	47, 37, 36, 34, 30, 32.	18, 14, 35, 39, 32, 37, 39, 19, 37, 30, 33, 67, 33, 35, 25.
40	21, 31, 30, 20, 30, 22.	25, 14, 24, 21, 33, 8, 14, 17, 54, 26, 35, 17, 11, 21, 25, 11, 15.
30	21.	6, 15, 19, 13, 12, 4, 8, 24, 11, 5, 10, 15, 12, 11, 11.
20		2, 9, 3, 4, 9, 8, 4, 7, 21, 10, 5.
10		2, 7, 2.

Referring to chart No. 2, the first column gives the manometer pressure, the second gives the readings where the indicating needle of the tonometer rested between two and four, while the third column gives the readings beyond the limits of two and four on the tonometer scale.

Now if we refer again to chart No. 1 on the line recorded as 40 mm. of manometer pressure, we may note that of 23 readings for that pressure 15 of them are practically within the limits of what Prof. Schiotz's tonometer chart gives as normal. I have further verified this with readings taken with my own tonometer. Patients have been selected who apparently had normal tension and did not present any of the symptoms, objective or subjective, of increased tension. Of these tests made the highest reading was 48 and the lowest 38. Not enough readings have been made, however, to establish these numbers as the limits of normal tension.

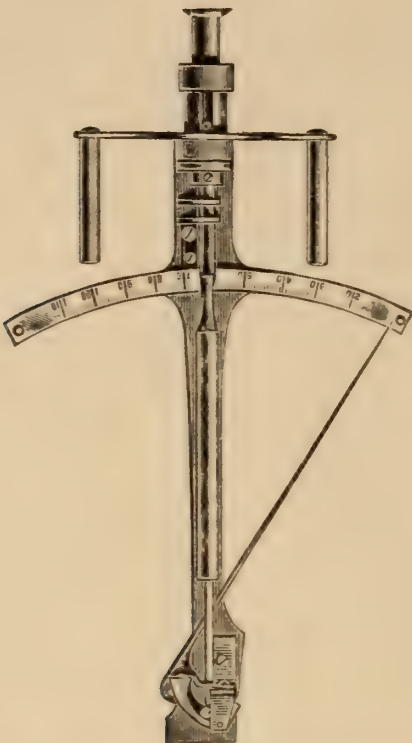
This paper is presented merely as a preliminary report. Further experiments which have been planned but which, unfortunately, I have been unable to make for lack of material, will give the final verification.

I desire to present before this society a new tonometer which has some points of difference from those now in use. The calibrations on the scale are in millimeters of Hg. as determined by actual manometer readings, using the testing apparatus described in this paper.

The scale is placed just above the finger piece and as close to the eye as possible so it can be more easily observed by the operator. The surface of the footplate, resting on the cornea, agrees with the segment of a sphere 20 mm. in diameter. The Schiotz's footplate conforms to a sphere about 30 mm. in diameter. We know the diameter of the eyeball to be from 22 to 24.5 mm., and the cornea is the segment of a sphere whose diameter is smaller than the sclera.

I made several measurements of the corneal curvature and estimated the average curvature to equal a segment of a sphere whose diameter is 20 mm.

The plunger or stylet instead of fitting the base of the instrument accurately has a space of one mm. between it and the base, and is held in position by the polished rounded ends of three hardened steel bearings placed 120° from each other. This reduces friction to a minimum and also prevents capillary attraction of any fluid on the cornea.



Possibly the lesser diameter of the curvature of the footplate and the reduction of friction between the plunger and base of the instrument explains the greater uniformity in the readings made by my instrument as compared with those of the Schiotz tonometer, as may be noted by comparison of charts No. 1 and No. 3.

CHART No. 3.

Manometer Pressure	McLean Tonometer, with Pulsator
110	110, 110, 103, 110, 106, 110.
100	100, 100, 100, 103, 103, 100, 98, 100, 100.
90	90, 90, 90, 88, 90, 90, 95, 90, 90.
80	79, 80, 81, 81, 79, 76, 80, 76, 81, 85, 81.
70	70, 70, 70, 70, 65, 65, 70, 70, 74, 70, 68.
60	60, 61, 63, 62, 62, 60, 60, 61, 60, 60.
50	50, 50, 51, 53, 50, 49, 49, 50, 50, 53, 51, 49, 50.
40	40, 40, 40, 39, 39, 40, 40, 42, 42, 40, 40.
30	30, 30, 29, 31, 29, 30, 29, 29, 30, 28, 30.
20	20, 20, 22, 20, 20, 20, 21.

DISCUSSION.

G. DEWAYNE HALLETT: I had a very interesting evening with Dr. McLean going over this work. I handled the Schiotz tonometer for him while he was manipulating the column of mercury. It really takes two persons to make correct observations with the Schiotz tonometer. Two persons looking at the Schiotz scale will interpret the location of the needle slightly at variance with each

other. The needle is very delicate and will oscillate a little when the eye of the person has not seemed to move. It was also astonishing to see such variations as are shown in this scale made on the same eyes. On the Schiotz instrument the scale is relatively short, the marks nearer together and hence more difficult to read accurately. Dr. McLean's scale has longer intervals, therefore better registration. I think that Dr. McLean is on the right track and is going to give us a much better and more accurate instrument than any we have yet had. His machine shows the tension of the normal eye to be about 40 instead of 20 and 25 as shown by the Schiotz.

The pars anterior (pituitary body proper) is a typical gland of internal secretion discharging a (stainable) colloidal substance directly into the blood stream.

The posterior lobe (possibly) discharges into the cerebro-spinal fluid.

Extract of the anterior lobe is relatively (to that of the posterior) inactive.

It is possible that infundibulin (post. lobe extract) in the blood may be the cause of the latter's pressor quality and action upon unstripped muscle fiber that have been attributed to adrenalin.

From experience oft repeated injections of pars anterior extracts lead to neither emaciation, as does that of the posterior lobe, nor to any other special changes. This favors the view that (*e. g.*) acromegaly is due to some *perversion of secretion* rather than merely to excess of normal secretion.

Automobiliousness. This new variant of an old trouble seems rather prevalent just now. The condition seems to start with autointoxication which, in turn, is an exaggeration or exacerbation of enthusiasm arising from overindulgence in a recently acquired motor. The superabundance of fresh air and exhilaration induce overeating, convenience leads to lack of physical exercise, waste products accumulate and automobiliousness supervenes. The disease in its incipency may be recognized by a characteristic facies plus a peculiar affection of dress and speech in which motor technicalities predominate to the exclusion of rational conversation. Satiety gradually tends to effect a restitution of the normal, but the physical changes are less easy of correction and may require drastic measures such as ablation of the motor, a gasoline-free diet and carefully regulated exercise before a cure results.—*H. G. W., L. I. M. J., Aug., '14.*

THE CONSERVATIVE TREATMENT OF INTRA-NASAL DISEASE.

E. B. GLEASON, M. D., LL. D.,

Professor of Otology, Medico-Chirurgical College,
Philadelphia, Penna.

THOMPSON, of Cincinnati, begins a paper on "The Proper Field of Medicine and Surgery in Diseases of the Upper Air Passages" (*Laryngoscope*, August, 1914), with the statement: "One-half of all the diseases it is our daily work to treat are curable by medical means alone." . . . "He is a poor laryngologist who sees in every new patient only fresh operative material, or who believes all diseases of the upper air passages should be surgically treated."

From all portions of the United States and from abroad have come protests from laryngologists, sometimes of international reputation, against injudicious operating, among the most noteworthy that of MacKenzie, of Baltimore, against the wholesale removal of tonsils and adenoids. The writer saw a few days ago a physician, the father of a child who has been a nervous wreck for some years as the result of the removal of adenoids and tonsils. According to the father's statement there was no very good reasons for operating, but some other children were to be operated and it was thought that this child, also, might just as well have its adenoids and tonsils removed at the same time. There has been a considerable number of deaths from operations for adenoids and tonsils, and many throats have been more or less crippled from the resulting scar. Especially in the case of professional singers or those who hope to become singers, the mere increase in the size of the pharynx by the removal of hypertrophied tonsils may have a most disastrous effect on the voice, without considering the evil effects of cicatricial contraction and impaired muscle efficiency.

Since submucous resection of the nasal septum has become popular, many septums have been operated because of the slight amount of deviation which in former years would not have been touched. In atrophic cases, especially, the end results have occasionally been disastrous, and it is not uncommon to find patients who claim that their real throat trouble immediately followed a submucous resection.

However, it is to the disastrous end results sometimes following radical operations on the accessory nasal sinuses that the writer wishes to direct especial attention. By radical operation is meant some surgical procedure the object of which is to destroy the diseased structures, in contradistinction to conservative treatment, either medical or surgical, that tends to restore the normal functions of the inflamed sinuses. To the first class belong the complete exenteration of the frontal, ethmoidal and sphenoidal sinuses by the Killian method and the operation of Caldwell-Luc on the antrum of Highmore.

While the functions of the nasal accessory sinuses are still a matter of dispute, it is probable that their lining mucous membrane supplies to the breath current a considerable amount of moisture. At any rate, the destruction of the accessory sinuses is followed, not by an accumulation of the semi-inspissated crusts of atrophic rhinitis, but a dry, sore and irritable pharynx, often more distressing to the patient than the condition for which the radical operation was undertaken.

There are doubtless a very few cases that will not recover without a radical operation or a fatality may result from failure to do a radical operation in some fulminating cases; but the fatal results from too radical operations upon the accessory sinuses probably far outnumber the lives that have been saved by such methods. Professor Kummel, of Heidelberg (*Archiv. Internat. du Larynx*, XXXVI, 1913), after reviewing a fatality following exenteration of the ethmoid labyrinth, states "That unless there is some vital indication it is better to do too little than too much interference in chronic ethmoidal or frontal sinusitis." Simon Openheimer (*N. Y. Med. Jour.*, March, 1913), states that if free drainage is present and there are no signs of ill effects on the general health but only an occasional headache, and if the patient can be kept under observation, the risks of radical operation more than counterbalance its advantages."

There are but few cases of frontal sinusitis that will not recover as the result of comparatively simple intranasal procedures. Those that do not recover, probably as the result of some anatomical peculiarity of the sinus, are usually in the condition described by Oppenheimer, occasional discharge and occasional headaches and the risks and end results of a radical external operation should be most carefully considered lest the treatment prove infinitely worse than the disease.

Ballenger, who would hardly be accused of excessive conservatism in his work on the accessory sinuses states, "After an experience of

more than four hundred cases operated on via the 'vicious circle,' I am convinced that but few cases of frontal and ethmoidal sinusitis of the nose require more radical surgical interference." (Diseases of the Nose, Throat and Ear, 4th edition, 1914.) Stucky states (Trans. of the 18th Annual Meeting of the Amer. Med. Acad. of Ophthal. and Oto-Laryng.): "Within the past three years I have been especially impressed with how little intra-nasal surgery is necessary to relieve the most complicated and serious conditions in which the visual apparatus presents the most alarming symptoms, and I am finding fewer cases that require the radical external operations even for the relief of suppurative pan-sinusitis."

In January, 1914, Dr. Herbert Goddard reported a so-called "fulminating" case of frontal sinus suppuration with exophthalmus and greatly impaired vision, which promptly subsided as the result of establishing drainage from the frontal sinus by means of Sullivan's rasps. That orbital lesions, the result of ethmoiditis, sometimes recover without operation is shown by the following case: Wm. O. C.; 65 years of age; divergent strabismus present for about three weeks; left-sided frontal headaches; negative syphilitic history; negative Wassermann reaction; X-ray shadow within the orbit connected with opaque ethmoid cells. All operative treatment was refused, even the removal of the middle turbinate, and yet a complete recovery resulted in about five weeks as the result of depositing five drops of Iodine-potas., iodid-glycerine beneath and above the middle turbinate of the affected naris. During part of this time the patient took ten grains of Potassium iodid. three times a day.

It should be borne in mind that most of the milder cases of acute suppuration of the accessory sinuses tend to spontaneous recovery or as the result of the mildest kind of treatment. The writer's method of treatment in cases with pus flowing from beneath the middle turbinate and from the olfactory slit is as follows: The naris is first thoroughly cleansed by means of a two-ounce syringe containing hot normal salt solution. Pledgets of cotton saturated with a 2 per cent. solution of cocain are inserted into the olfactory slit and beneath the middle turbinate and allowed to remain for five minutes. If after the removal of these pledgets pus still exudes from these localities, it is aspirated or syringed away with a two drachm syringe provided with a nozzle of pure silver nine millimeters long. The operator should be provided with a number of these nozzles, some of the size of an ordinary Vienna frontal sinus probe, some slightly larger and some

smaller. When screwed on to the end of a hypodermic syringe they make most excellent probes with which to sound the frontal or sphenoid sinuses, and, cleanse or medicate these cavities as required.

The parts having been cleansed and cocainized, 5 drops of preferably a 10 per cent. solution of Argyrol is injected through the olfactory slit and beneath the middle turbinate. Because of the proximity of the parts the solution is retained for hours by capillary attraction, and only very slowly dribbles away. Some of my patients have told me that they still expectorated Argyrol-stained mucus from their pharynx the next morning after such injection. As the result of the prolonged contact the mucous membrane about the ostia of the sinuses and ethmoid cells assumes a normal character. Drainage is established and a cure is brought about in nearly all of the acute cases and some of the chronic. Rarely has it seemed absolutely necessary to even penetrate, wash out and medicate the frontal and sphenoid sinuses, although this often can be readily done with the silver nozzles, especially in the case of the sphenoid. It has seemed advisable to operate by removal of the middle turbinate in cases where this structure was too large for the place within the nose in which it was packed, and hence caused headaches and obstructed drainage. In a number of instances the anterior ethmoid cells were curetted away by Mosher's method to secure access to and better drainage from the frontal sinus.

Involvement of the antrum has been diagnosed by needle puncture beneath the inferior turbinate, and when pus was washed from the sinus by normal salt solution a large opening was made beneath the turbinate. The X-ray was rarely used for purposes of diagnosis in non-operative cases, because Caldwell long ago demonstrated that pus impedes the X-ray only to the same degree as normal salt solution, or indeed pure water, and hence, in an X-ray negative of the sinuses a shadow ordinarily means little more than swollen mucous membrane, and certainly is of itself no good reason for a radical operation, although a negative is sometimes extremely valuable for demonstrating the size, shape and extent of the accessory sinuses. Necrotic bone, the usual excuse for a radical operation, is extremely rare in nasal sinusitis. Polypus is probably the most common cause of failure to cure nasal sinusitis by conservative methods, but it has been shown that flat pedunculated polypi under favorable circumstances in other localities sometimes disappear so that the mucous membrane assumes a normal character.

2033 Chestnut Street.

A NEW CONCEPTION OF THE OCULAR MOVEMENTS WITH A NEW STRABISMUS OPERATION BASED THEREON.*

EDGAR J. GEORGE, M. D., F. A. C. S.,
Chicago, Ill.

IN the past the etiology and treatment of strabismus have been theoretical and indefinite. Up to the present time, to my knowledge, there have been no fixed rules or principles given to govern the treatment of strabismus that are of sufficient precision to make its treatment an exact science.

Heretofore we have been treating strabismus unscientifically, operating cases in the dark, as it were; doing tenotomies and advancements by judgment alone, without a definite standard of measurement to follow. As a result we have often fallen short of establishing a perfect muscular equilibrium, although apparently a satisfactory cosmetic effect may have been obtained in cases of amblyopia, but where the vision of both eyes was equal or normal, a distressing and uncorrectable diplopia often followed that was most discouraging.

This lack of scientific precision has arisen from two factors:

First: A misconception of the ocular movements.

Second: The lack of proper instruments for the scientific measuring and correction of strabismus.

THE OCULAR MOVEMENTS.

Physiologists have been at fault in ascribing to the eyeball a rotary motion at its equator. The motion of the eyeball is oscillation not rotation. The center of movement is the macula lutea and not the equatorial diameter. The only rotary motion of the eyeball is that on an antero-posterior diameter which corresponds with the visual axis, and the posterior pole of which is the macula lutea. My conclusions have been formed by clinical observations and experiments with instruments especially devised for the purpose.

Let us consider the anatomical and clinical findings upon which this theory is based.

*Read under the title: Strabismus. Its Etiology and Treatment from a Scientific Point of View before the American Homœopathic Ophthalmological, Otological and Laryngological Society, June, 1914.

A brief consideration of the anatomy and function of Tenon's capsule: the relations of the optic nerve and the insertion and action of the extraocular muscles will serve to show the foundation for this radical departure from the accepted theory of ocular movements.

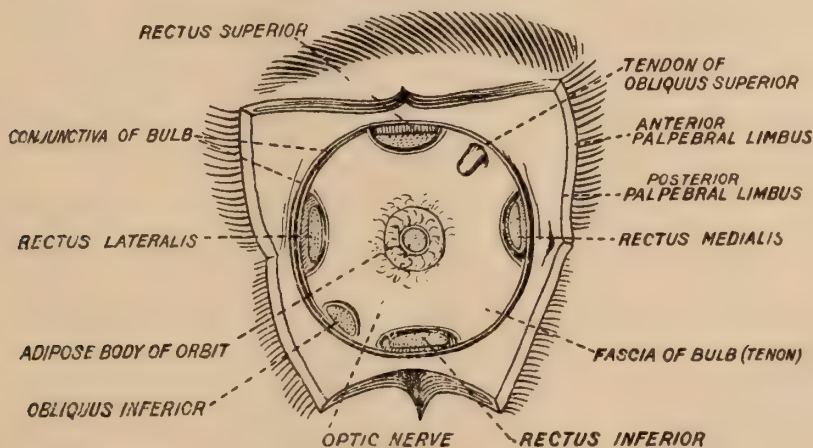


FIG. 1.

The Capsule of Tenon of the right eye with its openings. Atlas and Text-Book of Human Anatomy. Sobotta & McMurrich.

Tenon's capsule is virtually an inelastic diaphragm in which the eyeball rests as in a hammock. Tenon's capsule serves, not only as a support to the eyeball, but as the direct antagonist of the four recti muscles. It not only resists their united action to draw the eyeball more deeply into the orbit, but also, through the check ligaments, limits the action of the muscles individually and the excursions of the eyeball. The intracapsular lymph space functionates similarly to the pleural and pericardial cavities, its purpose being to secure motility and prevent friction.

Tenon's capsule is part of the orbital fascia and surrounds the posterior four-fifths of the eyeball, encapsulating it posteriorly. It forms the sheath of the recti muscles, becoming thicker where it reaches the eyeball. Fibers are adherent to the muscles about one millimeter from their insertions, while others blend with the conjunctiva at their insertions. Anteriorly the fascia divides and extends to the orbital walls, where it is securely inserted forming a firm support for the eyeball posteriorly in opposition to the retracting influence of the recti muscles. Prolongations or rather strong bands are given off from the external rectus to the zygomatic bone, and other somewhat laxer bands from the surface of the internal rectus to the crest of the lachrymal bone. Bands extend from the superior

rectus and join the tendon of the levator palpebræ superioris muscle. Bands are also given off from the inferior rectus and are inserted into the lower border of the tarsal plate of the lower eyelid. These are known as check ligaments. The lateral ligaments limit the movement of the eye laterally exclusively, while the superior and inferior, aside from having the same function of limiting the movements of the eye upward and downward, in conjunction elevate and depress the lids. Tenon's capsule also forms a sheath for the optic nerve, envelops the vessels and nerves, and intermingles with the soft fat that fills the orbital cavity. It is separated by a lymph space into two layers, the visceral and parietal layers, lined with endothelium which facilitates

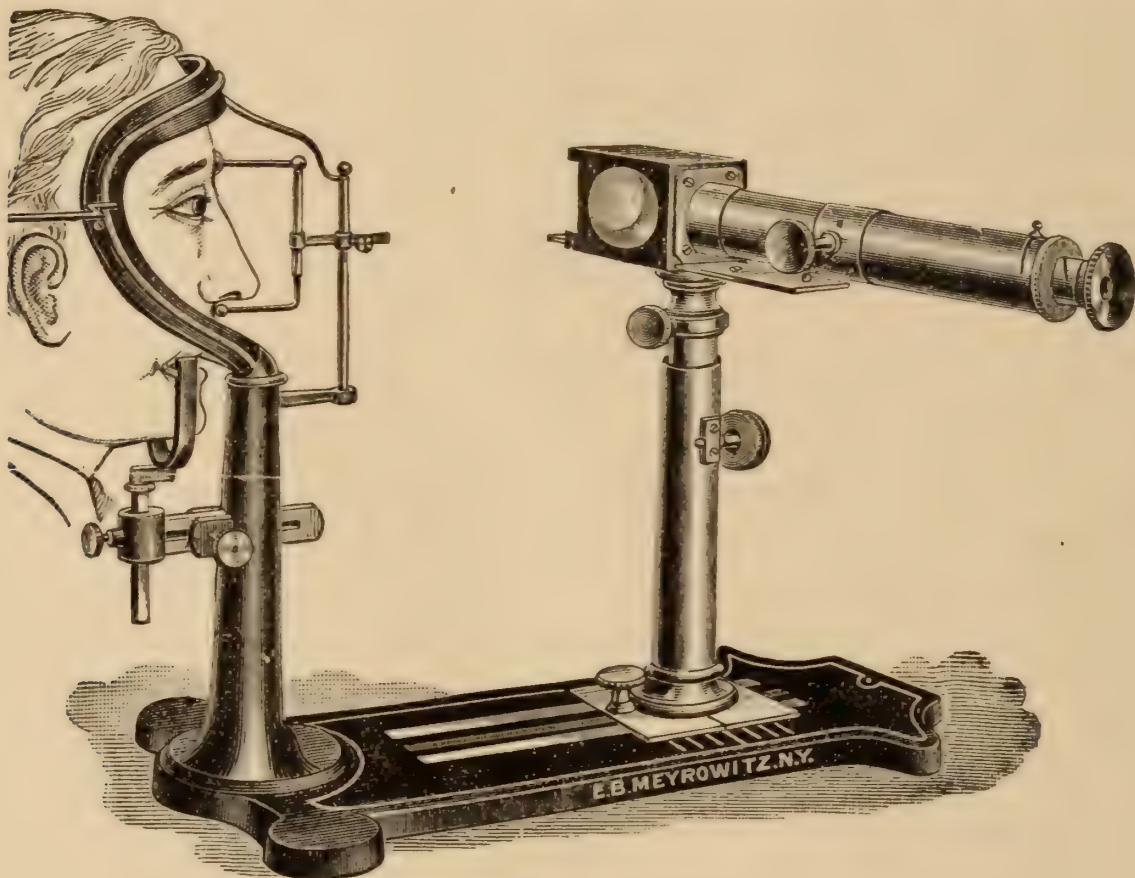


FIG. 2.

Stevens' Tropometer.

the free movement of these layers upon each other. *In reality Tenon's capsule serves as a sling in which the eyeball rests, a hammock, as it were, and instead of the eye rotating at its equator in the capsule, it oscillates, swings or rocks on its posterior segment in all the degrees of an arc.* The movement of the eyeball does not take place within the capsule, but between the visceral and parietal layers, friction being overcome by the endothelium lining and the lymph between, *the center of movement being the macular region.*

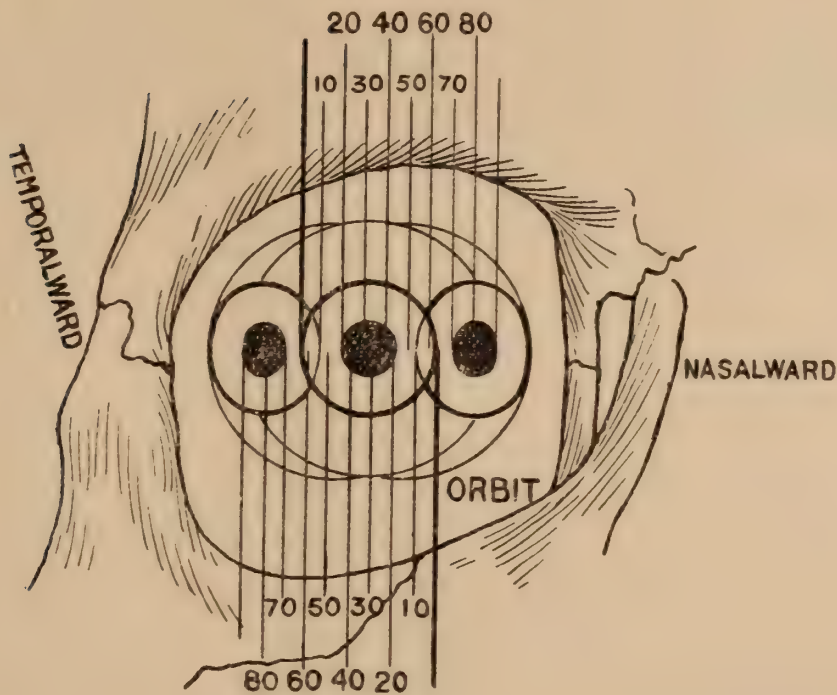


FIG. 3.

Lateral movements of the eye according to Stevens' tropometer.

Normally the movements of the eye (according to Steven's tropometer) are 40° to 50° nasalward and temporalward, upward 25° to 30° , downward 40° to 50° . If we assume as heretofore that the rotation of the eye is at its equator, the posterior segment of the eye must move the same number of degrees of the arc as the anterior. This would be impossible in view of the fact that while the optic nerve and its sheaths are flexible, they are non-elastic, consequently are not capable of stretching sufficiently to allow the head of the optic nerve to describe an arc corresponding to that described by the anterior pole.

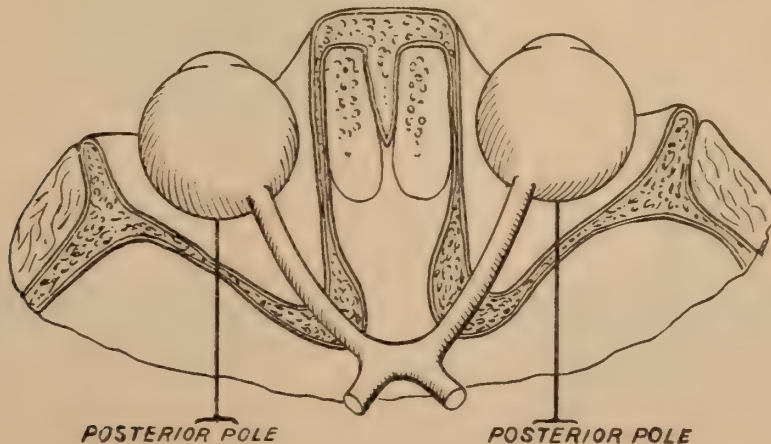


FIG. 4.

The two eyeballs, with their optic nerves. Atlas and Text-Book of Human Anatomy. Sobotta & McMurrich.

In view of the fact that oscillation of the eyeball takes place instead of rotation, the actions of the recti muscles are as follows:

The internal rectus turns the eye inward and in conjunction with the inferior rectus turns it inward and downward. The inferior rectus turns the eye downward and in conjunction with the external turns it downward and outward. The external rectus turns the eye outward and in conjunction with the superior rectus turns it outward and upward; while the superior rectus turns the eye upward it also turns it upward and inward with the help of the internal rectus, and vice versa. The action of the oblique muscles is torsion, they rotate the eye on its optic axis, *the posterior pole of which is the macula lutea*. Their function is to maintain erect images vertical as the images on the macula must correspond point for point with each other, which demonstrates the fact that the macula lutea is not only a visual center but also a *receivng and directing center for ocular movements and muscular conjunction*. These muscular movements have been proven and can be demonstrated on a model constructed for the purpose.



FIG. 5.

A model by which all the movements of the eye can be demonstrated.

If the eye rotated at its equator the macula lutea would be in a constant state of motion. Its movements would be in accordance with

that of the cornea, but in the opposite direction, and its location would not be at an established point, therefore fixed vision and object finding would be most complicated and difficult. On the other hand, if the macula lutea is stationary and is the point from which all movements of the eye originate and take place, when it is desired to focus on an object lying on the outside of the field of fixation, the eye simply swings its visual axis to it, bringing the image of the object upon the fovea centralis without a change in the position of the macula lutea. In other words, *the macula lutea is stationary at all times and is the center upon which all movements of the eye are directed.* Although not demonstrated anatomically, it is contended that there are papillo-macular connections with the conjugate centers in the brain.

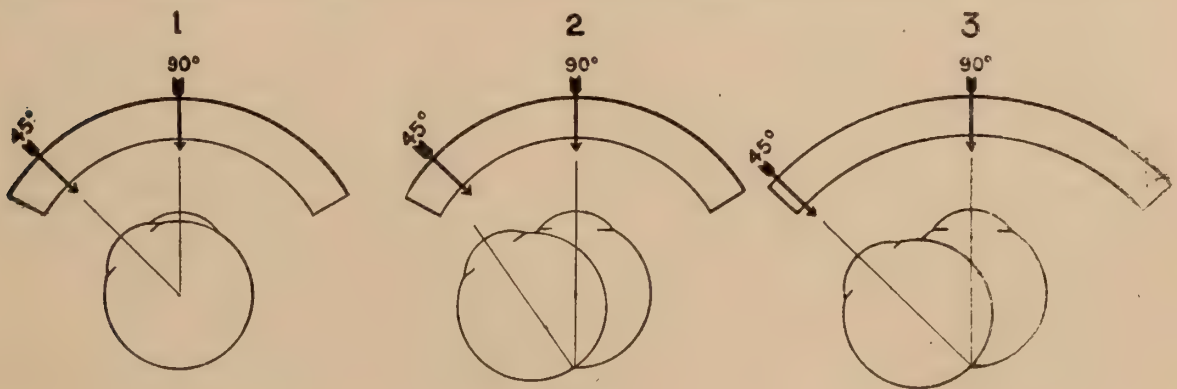


FIG. 6.

In an attempt to construct a strabismometer an instrument was made consisting of an arc so placed that the center of the eyeball coincided with the center of curvature of the arc. According to the accepted theory the eyeball rotating at its center, the antero-posterior axis of vision. The pivotal point is the posterior pole of the visual axis or the arc, as shown in Fig. 1.

On applying the instrument, however, we found the condition shown in Fig. 2, that the movable pointer marking the radii of the arc did not correspond with the antero-posterior axis of the eyeball in its lateral movements.

On constructing another arc with the posterior pole of the eyeball as the center of curvature, the antero-posterior axis of the eyeball and the radii of the arc were found to correspond, point for point, in all movements of the eyeball, as shown in Fig. 3. Demonstrating that the eyeball oscillates on the posterior pole.

To recapitulate: The motion of the eyeball is oscillation not rotation. The pivotal point is the posterior pole of the optic axis or the

macula lutea. These oscillations are produced by the recti muscles acting individually or in combination. The oblique muscles maintain erect images vertical. The macula lutea is the directing as well as the receiving center.

STRABISMUS.

When, for various reasons, the action of the extra ocular muscles of one or both eyes is so abnormal that parallelism of the visual lines can not be maintained the condition is known as strabismus.

Etiologically nonparalytic strabismus may be divided into three different classes, namely, periodical, spasmodic and permanent squints.

Periodical convergent strabismus is usually due to anisometropia with defects of hypermetropia, hypermetropic astigmatism or compound hypermetropic astigmatism, without a marked degree of amblyopia, and is the result of an excessive accommodation and convergence on the part of the eye of the greatest defect, for with every diopter of accommodation the eye converges 2° . These squints disappear after the correction of the ocular defect, providing there are no existing muscular abnormalities. Such squints, even when uncorrected, gradually disappear after the age of puberty from the regular process of muscular sclerosis that accompanies the progress of age.

Periodical divergent strabismus usually becomes permanent as age advances, and is due to muscular abnormalities.

Periodical convergent squint occurs on attempt at fixation for the near point, or when a child is tired, ill or cross. The same may be the case with divergent strabismus, but it is more likely to appear when the eyes are directed at infinity, or is more apparent by the exclusion test.

Spasmodic squint differs from the periodical as it occurs with a spasm. The eye suddenly deviates inward, outward, upward or downward (and if the spasm of one or more muscles occurs, the eye may suddenly turn outward and upward or downward, or turn inward, downward or upward). Such spasms are choreic and chronic, and in the majority of cases are congenital, although they may be secondary to general nerve affections. The cause may be with one or more of the conjugate centers, whereby an impulsive innervation occurs or excessive charge of neuricity is sent from the brain cells independent of peripheral stimulation. These spasms are uncontrollable and are of great annoyance and embarrassment. They occur spasmodically and at all times. These cases are inoperable. The only method of

treatment is the fogging of the vision of the affected eye, the same as with a case of eccentric macula. Patients have known no relief until after the loss of the vision of an eye by accident or disease, although some have learned to obviate the annoyance of retinal exclusion.

Amblyopia cannot be regarded as an etiological factor of strabismus. While it cannot be disputed that there are cases of amblyopia ex-anopsia, the majority of cases of amblyopia are congenital and due to some anatomical deficiency, either in the optic nerve fibers themselves or the macula lutea. Partial or complete loss of vision of an eye is also not an etiological factor of strabismus. While it is true that acuteness of vision maintains parallelism of the eyes in heterophoric cases and thus the eyes are straight so long as the vision of both eyes remains normal, if by accident or disease the vision of one of the eyes becomes impaired or destroyed, a deviation ensues. How frequently this condition is seen in bilateral senile cataracts. Eyes that were straight before the loss of vision become convergent or divergent afterward, therefore the etiology of heterophoria and strabismus must be regarded as a congenital muscular defect, due either to faulty insertions of the recti muscles or an inequality in their relative lengths. Recently I have seen four amblyopic children of one family, one of which had perfectly balanced and straight eyes, while the other three had marked convergent strabismus. I know of a brother and sister who are both amblyopic in the left eye. I operated the sister for a convergent squint of high degree, while the brother's eyes were straight. I also know of a lady in whose family monocular amblyopia is characteristic. Her mother is amblyopic; she is amblyopic in the left eye, and so is her daughter, but not one of them is afflicted with squint.

Amblyopia is quite prevalent; many cases are met with in our refraction work that are not strabismic, owing to the fact that the eyes possess a muscular equilibrium which bears out the etiological fact that *permanent strabismus is due to congenital muscular defects* which constitute the majority of cases that we have to deal with and the treatment is surgical.

In operating cases it is frequently noteworthy that a muscle is found hyperdeveloped and its opposing muscle subnormally developed. Hyperdevelopment is incurred by excessive accommodation and innervation in convergent strabismus, while the subnormal development

of the opposing muscle is the result of persistent stretching of that muscle due to over action of its opponent. The same condition will be found to have taken place with any opposite muscle, whether it be the contracting influence of a hyperdeveloped muscle, or a muscle that is too short in its relative length, or its insertion is advanced too far forward on the sclera. Such muscles are vitally exhausted and usually become attenuated, but under proper surgical treatment both the hypertrophied and attenuated muscles will assume their normal condition, the internal if too strong will become reduced, and the external if too weak will develop proportionately in size and tone. It is for this reason that when simple tenotomies are done for the correction of convergent strabismus they have later become divergent, although at the time of operation the result seemed perfect. Recognizing but not understanding these conditions, operators in the past established the rule in doing simple tenotomies for the correction of convergent strabismus to under correct, and to over correct in divergent, allowance being made as was thought for the stretching of the tissues, and for muscular advancement for the cutting of the sutures.

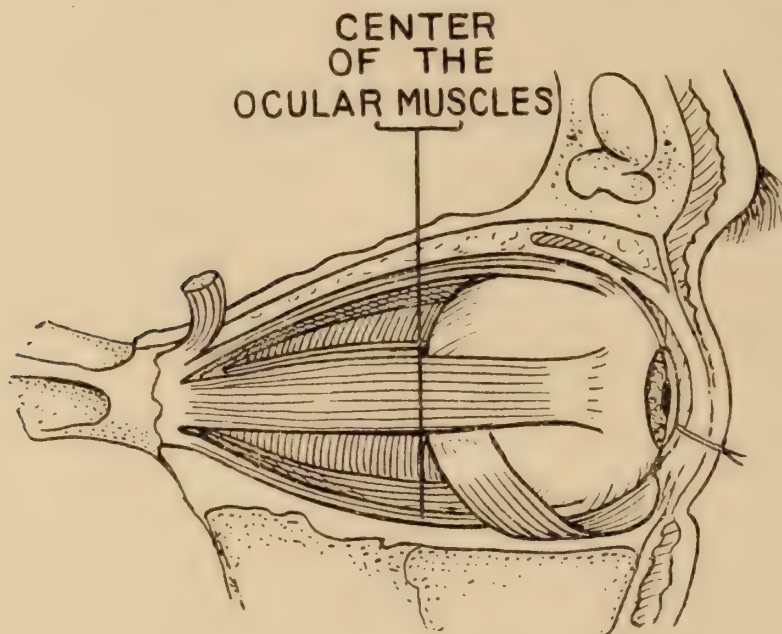


FIG. 7.

Aside from an origin and insertion, each muscle has an established center, a center of muscular action of contraction and relaxation. The center of the ocular muscles is located in the plane of the posterior pole of the eyeball. Normally a muscle is equally balanced, and when not in action assumes a state of rest. In heterophoria and strabismus

a point of rest is impossible, as dislocation of one or more of these centers causes a muscular disorganization and in nature's effort to maintain an equilibrium excessive innervation is ever present. It is for this reason that gymnastic exercises fail to correct heterophoria.

INSTRUMENTS.

Before the advent of Stevens' tropometer, the locating and estimating of muscular imperfections could not be definitely determined, and mistakes were frequently made by operating the wrong muscles.

At the meeting of this society, June, 1911, in a symposium on strabismus, the articles of which appeared in the August issue of the *JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY AND LARYNGOLOGY*, I presented and described an instrument that I had devised for operating strabismus, a combined recession and tucking or muscle shortening forceps for the accurate adjustment of the ocular muscles by measurement. The instrument in itself has since proven to be all that was claimed for it. In the beginning of its use in operating cases of convergent strabismus I directed my attention to the external recti muscles alone, thinking that perhaps they were at fault and shortened by tucking one or both muscles ten millimeters each, without any marked effect upon the squint. The only appreciable effect noticed was a drawing of the eyeball farther back into the orbit, causing a narrowing of the palpebral fissure. In one case it changed the refraction of an eye to a considerable degree.

Without any fixed rule, my next effort was directed to combined operations, a recession of the internal rectus and a shortening of the external of the squinting eye, the amount of recession and advancement being purely a matter of judgment. In some cases I shortened the external rectus twice the amount of the recession of the internal, and the reverse with the internal in an effort to establish some definite rule by which to operate. Few cases proved successful, the majority fell short of expectations, but upon making use of Stevens' tropometer for the measurement and estimation of the ability of the recti muscle individually, I gained a better knowledge and understanding of strabismus and its treatment.

In measuring the efficiency of the recti muscles in cases of strabismus, it will be found that the squinting eye is not always the one that possesses the muscular defect, but, on the other hand, the muscular anomaly may exist with the fixing eye. This may be the case where one eye is amblyopic, the fixing eye being the visual eye re-

mains straight regardless of its muscular defect, and if operative work is directed to the squinting eye in such a case it would prove a serious mistake. Such an error is likely to occur when tenotomies or combined tenotomies and advancements are done without a previous estimation of the ability of the individual muscles of each eye, which virtually means a diagnosis.

In cases of convergent or divergent strabismus, when the vision of the eyes is equal or normal, the eye with the greatest muscular defect will usually be found to be the deviating eye, yet it must be borne in mind that the muscular anomaly may not exist in one eye alone, but may also be present in the fellow eye, and if such should be the case the squint is likely to be an alternating one.

Strabismus is not usually the product of one defective muscle only but more often is the involvement of several muscles, therefore, for a complete and perfect correction and the establishment of a muscular equilibrium, the treatment must be directed to each defective muscle accordingly. This may require an operation on one or more muscles of one eye, or on the muscles of both. *The operative rule should be the correction of all existing muscular defects.*

DIAGNOSIS.

For this purpose Stevens' tropometer is used to determine the efficiency of the recti muscles individually. I have since devised a similar instrument for computing the action of the recti muscles, which is now in the course of construction, and have given it the name of phorostrabometer. It is a binocular instrument that will not only measure muscular defects accurately, but ocular deviation as well. For the scale measuring the arc in which the eyeball moves calculations have been made from the macular region so that the findings of the instrument are in accordance with the true movements of the eyeball.

The normal movements of an eye inward and outward are from 40° to 50° , upward 25° to 30° and downward 40° to 50° . These measurements can be regarded as standard, although there may be a variation from this in some cases and yet the muscles be normal. Variations from the standard measurements can be determined and specific estimations can be established for cases possessing a sub-normal muscular tone, but fortunately there are few.

Before forming a decided diagnosis and operating several examinations should be made, as one alone is unreliable. Examinations re-

quire experience and education of the patient. In using either of these instruments the movements of the eyeball are performed without the muscle being influenced by excessive innervation, each muscle will demonstrate its function. In making an examination with Stevens' tropometer, the opposite eye from the one being examined should be excluded by a shield, but with the phorostrabometer this is provided for. With Stevens' tropometer it is sometimes difficult to estimate the muscles of a very amblyopic eye, but it can be done if pains are taken.

ILLUSTRATION OF CASES.

For example on examination of a case of a left convergent strabismus the muscular ability of the lateral muscles of the right eye is found to be normal in the movement of the eye 50° inward and 50° outward, while the excursion of the left eye is 60° inward and 40° outward, which indicates that the internal rectus is over efficient by 10° , being either too short or too far advanced in its insertion, while the external muscle shows a deficiency of 10° , and which is either too long or is set too far back in its insertion. In order to correct the squint it would be necessary to set the left internal rectus back 2 millimeters and shorten the external 2 millimeters, which would not only rotate the eye outward 10° , but correct the squint and establish a muscular equilibrium.

In operating it requires both a recession and shortening of the internal and external recti muscles 1 millimeter for every 5° of arc. To change the position of the eyeball either inward or outward 5° , as the average anteroposterior diameter of an eyeball is 24 millimeters, 23 millimeters is the diameter of the scleral globe, and 72 millimeters the average circumference; 360° divided by 72 equals 5° , therefore the combination recession and shortening of the tendons of the internal and external muscles 1 millimeter each will change the position of the eyeball 5° , but the recession or shortening of a muscle 1 millimeter alone will only accomplish the correction of $2\frac{1}{2}^\circ$, owing to the traction of the opposing muscle. Therefore, if the effect of rotation of the eyeball 5° is desired from operating one muscle alone, the tendon must be retired or shortened 2 millimeters in order to obtain the effect of 5° .

After operating cases of strabismus of long standing and of high degree according to measurement, a full correction of the squint may not be observed immediately on account of the reduction or semi-

paralytic condition of an opposing muscle to a muscle that is short, or too far advanced in its insertion, but in time the weakened muscle will regain its strength and the eyes will become straight. In a recent case of convergent strabismus of high degree, the measurements of the internal recti muscles were 65° and the external 35° . In operating the case it required a recession of the tendons of both internal recti muscles 3 millimeters and a shortening of the external 3 millimeters, which at the time did not fully correct the convergence, but did some weeks later, when recuperation and complete restoration of the relaxed and attenuated external recti muscles took place.

In some cases it may be found necessary to operate on the internal rectus of one eye, and the external rectus of the other, therefore, as stated before, the operative work must be *the correction of all muscular defects wherever they are found to exist.*

Muscular operative work should not be attempted under local anæsthesia unless on an adult, and then where there is but one muscle to be operated, as the operation in itself is painful. Nitrous oxide gas is not adapted for the work, as it does not produce sufficient muscular relaxation.

OPERATIVE TECHNIQUE.

At the time of the anæsthetic the first procedure should be the instillation of an adrenalin solution to lessen hæmorrhage.

For the recession of a muscle the conjunctiva is picked up at the center of the insertion of the tendon with Stevens' tendon forceps

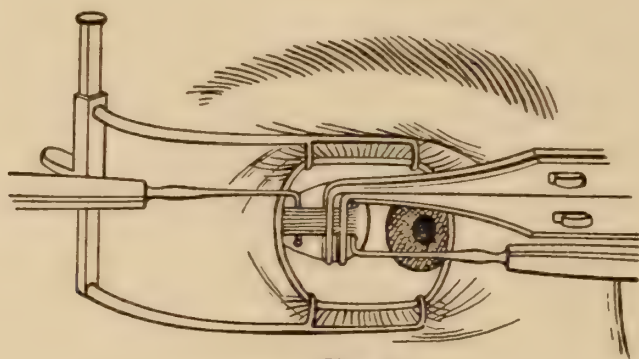
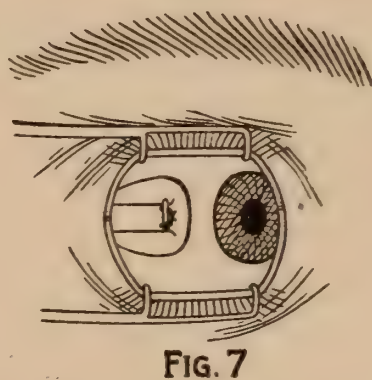
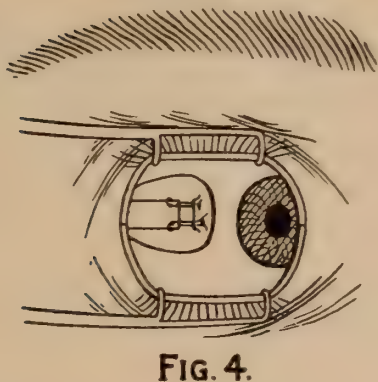
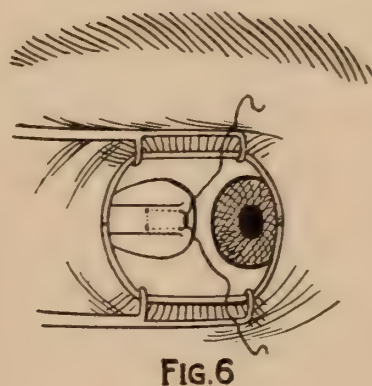
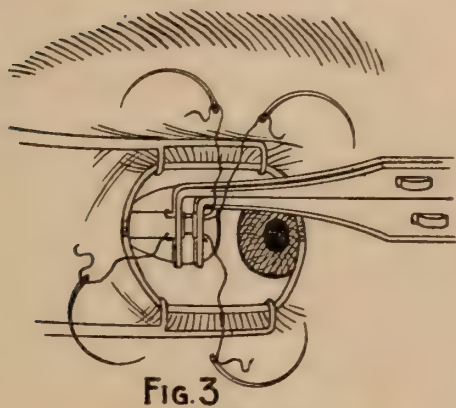
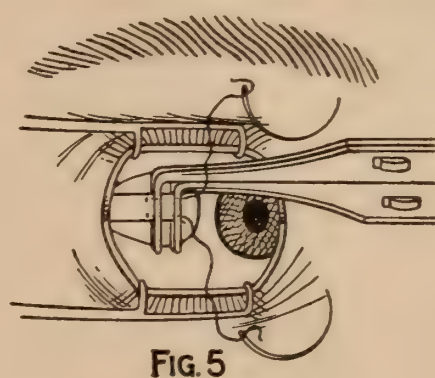
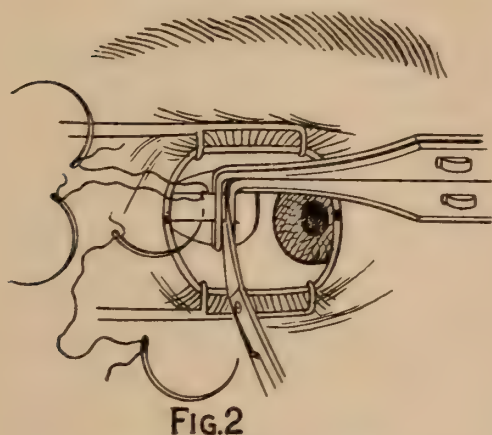


FIG. 1

(which is to be used as tissue forceps); it is snipped and incised vertically about 12 millimeters, which is a little beyond the tendon's breadth. The subconjunctival tissue or Tenon's capsule is then carefully dissected from the surface of the tendon (remembering its attachment thereto). The tendon being exposed (Fig. 1), two right angle tendon hooks (specially devised) are passed beneath the muscles

(care being taken that they do not puncture the margin of the muscles). The two hooks are now drawn in opposite directions from each other thereby stripping the tissues and sliding the sheath from the muscle as far back as required. The hooks are to be held in place by an assistant while the forceps are being applied. Before applying the forceps they



must first be adjusted. The blades are to be closed and the jaws set 1 millimeter apart by measurement, for the cutting of the tendon between. The blades are then to be opened and passed beneath and above the tendon, the hooks are removed, the forceps blade is then brought up snugly against the tendon insertion and the blades closed. Two sutures are first to be placed back of the distal blades of the forceps before severing the tendon. This is done to fortify against

an accident, should the tendon slip, after being cut, from the grasp of the forceps' jaws through manipulation. These sutures are to be used later to suture the muscle in place after the tendon has been severed. Each suture is armed with two curved needles, one on each end. One of the suture needles is passed through the tendon from beneath outward, 1 millimeter from its upper border back, and close to the distal blades of the forceps and the suture pulled through to its middle. The needle is reinserted at or about the same point in like manner, and when the suture is drawn down a loop is formed around the fibers of the upper border of the tendon that securely holds without stripping or slipping. The suture is then laid to one side for further use. The other suture is placed through the lower border of the tendon in the same manner as described and laid to one side (Fig. 2). The tendon is now severed between the forceps with an angular scissors (specially devised) and a small Stevens' tendon hook is passed between the cut tendon and swept around above and below to engage any remaining uncut fibers, as all must be severed. The forceps jaws are gradually separated by means of the set screw to measure as many millimeters as it is desired to set the muscles back, due allowance being made of one millimeter, the opening between the forceps for the incision (Fig. 3). After the recession has been accomplished the needles of the two sutures are each passed beneath the proximal blades of the forceps and inserted through the stump of the insertion of the incised tendon, near the superior and inferior borders about two millimeters apart from each other and are snugly tied, leaving free ends for removal (Fig. 4). The blades are now unlocked and the forceps removed which completes the operation. The conjunctival and subconjunctival tissues are not to be sutured, the gap being essential to the recession.

For muscle tucking or shortening the conjunctival and subconjunctival tissues and the exposition of the muscle by dissection is proceeded with in the same manner as described for recession. The two right angle tendon hooks are passed beneath the muscles and drawn in opposite directions, stripping the muscles' sheath and tissues backward. The hooks are again held in place by an assistant for the placing of the forceps. The forceps are first to be adjusted by separating the blades to the number of millimeters that the muscle is to be tucked or shortened. Two millimeters must be allowed for the width consumed by the forceps' blades, as the stitches are to be inserted back of

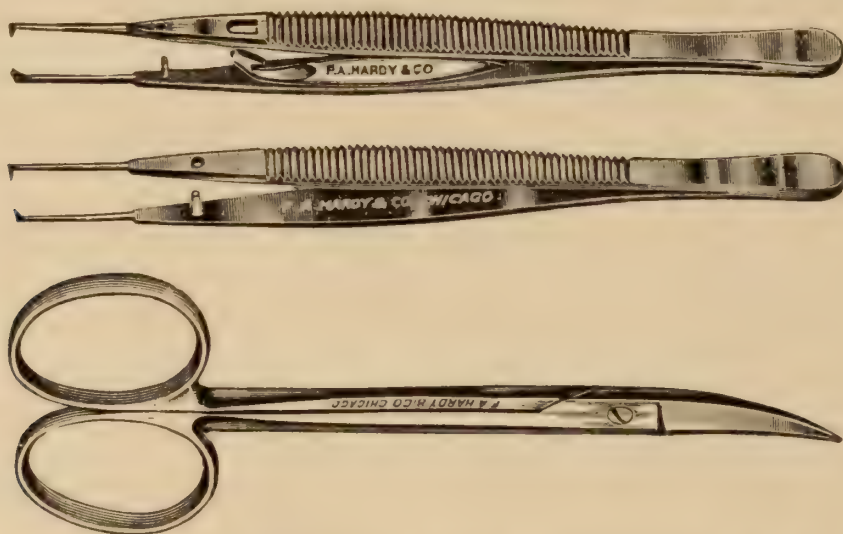
the blades (Fig. 5). The blades are then opened and passed beneath and above the muscle, the hooks are removed, the proximal blade is brought up snugly against the tendon insertion, and both blades are closed. For making the tuck, one suture provided with two curved needles is used. The suture is passed between the tendon and the eyeball and drawn to its center just back of the distal jaws of the forceps. The needle on the inferior end of the suture is turned back and inserted through the tendon from beneath outward one millimeter from its border, it is then reinserted from without inward, or beneath the tendon one millimeter from the first insertion toward the center of the muscle, behind the transverse part of the suture which lies underneath, care being taken not to pierce the underlying part of the suture, if so it will become locked and its removal prevented. The needle is then drawn through and the suture down, which forms an engaging loop around the tendon fibers at that point, the loop being reinforced by the transverse portion of the suture in front, becomes firmly fixed in place and will be found suitable for the most delicate and attenuated fibers. The needle attached to the other or superior end of the suture is passed through the superior margin of the muscle's tendon one millimeter from its border from beneath outward, and outward inward or beneath one millimeter below the first puncture toward the middle of the muscle, bringing the needle and suture out back of the underlying transverse part of the suture, after which it is drawn taut to the same as with the other end of the suture, again care being taken not to pierce the underlying transverse part of the suture. By rotating the forceps laterally the needles can be placed more easily. Both needles are now to be inserted beneath the proximal blades of the forceps through the insertion of the tendon near the superior and inferior borders at a wider distance apart than the space of the stitch on the tendon (Figs. 6-7). The forceps are now to be removed and the tuck made by tying the suture. The conjunctival and subconjunctival tissues are to be replaced by fine sutures.

Suture material for muscle recession should be of No. 3 twisted white silk (such is specially prepared in solution by Johnson & Johnson), and for tucking No. 5 should be used. Sutures should remain in place ten days before removal, and be removed with Littauer's suture scissors. Should a suture accidentally become locked in making the stitch, it will do no harm if that part is left in the tissues, as the material used is white.

No. 4 full curved needles are most suitable, but should be repointed, as it is essential that they be keenly sharp and do not drag upon the tissues.

My experience has been more with the correction of convergent strabismus than divergent, mainly because convergent strabismus is more prevalent. The majority of cases of divergent squint that I have had to deal with were postoperative, the result of single and double tenotomies. Such cases cannot be corrected by measurement, only by judgment.

The after treatment should consist of nothing more than moist cold applications for the first twenty-four hours, and no bandage at any time thereafter. As the muscles are firmly sutured in place free use of the eyes can be allowed for all purposes excepting near application. A saturated solution of boracic acid in the eye four times a day, and the application of sterile vaseline to the margin of the lids at



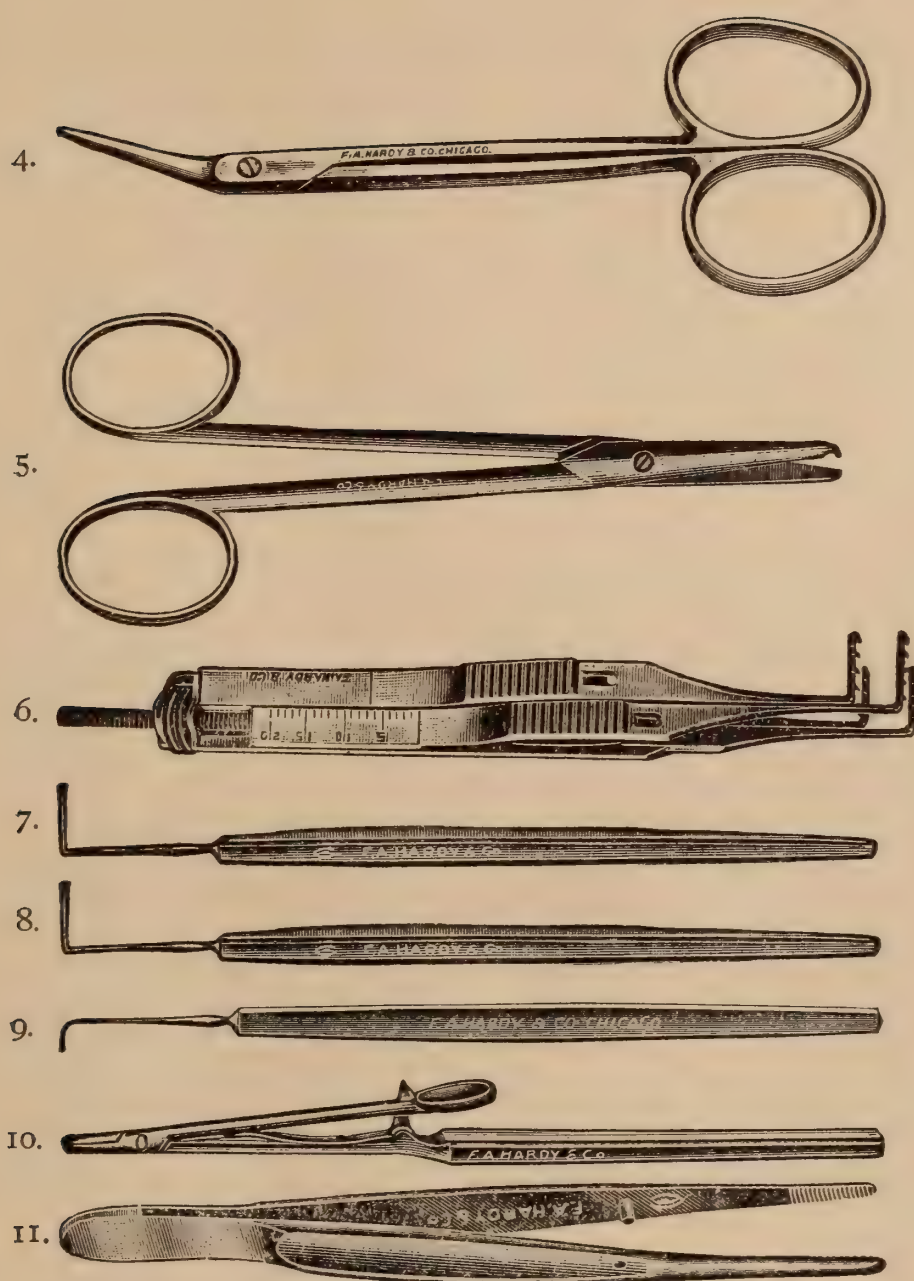
bedtime, is all the after treatment that is necessary up to the time of the removal of the stitches. Nodules resulting from tendon tucking will in time disappear.

Prior to operating errors of refraction must be accurately corrected under a thorough cycloplegic and the wearing of glasses insisted upon after operative treatment.

Surgery of the ocular muscles cannot be successfully performed without a complete and suitable set of instruments, both for testing and operation.

In conclusion, I wish to acknowledge the valuable assistance rendered me by Dr. W. E. Boynton, to whom I feel greatly indebted.

801 Marshall Field Bldg.,
110 No. Wabash Ave., Chicago.



1. Stevens' tendon forceps with catch.
2. Stevens' tendon forceps without catch.
3. Sharp pointed dissecting scissors.
4. Angular scissors.
5. Littauer's suture scissors.
6. Recession and Tucking forceps.
- 7 and 8. Right angle tendon hooks.
9. Stevens' tendon hook.
10. Stevens' needle holder.
11. Serrated tissue forceps.

These instruments are manufactured by F. A. Hardy & Co., Chicago.

DISCUSSION.

DR. SUFFA: When our secretary asked me if I would open the discussion of Dr. George's paper, "Strabismus, Its Etiology and Treatment From a Scientific Point of View," I wrote him that I would gladly do so, having no idea of the radical viewpoint the author maintained relating to ocular movements. Had I known of his conclusions, so absolutely at variance with all past and present investigators along this line, including physiologists and anatomists who have accumulated a large fund of information relating to ocular movements and the structure and arrangement of Tenon's capsule, I should at least have hesitated in accepting the task, especially as my own research and investigation of this subject have led to conclusions entirely opposed to those of the author; which makes it necessary for me to disagree with his conclusions, not only as to ocular movements, but also to other points he advocates.

In the time allotted for the opening discussion, I shall only be able to take up four points which I consider the essential parts of the paper, namely:

First. The radical claim that the eyeballs oscillate—do not rotate.

Second. The method of diagnosis.

Third. The technique of the operative procedure.

Fourth. The etiology.

Dr. George claims that the lack of scientific precision in operative procedures is due to two factors:

First. A misconception of the ocular movements.

Second. The lack of proper instruments for the scientific measurement and correction of strabismus, advancing an entirely new theory of the movements of the eyeballs; oscillation, in place of the accepted rotation; basing his claim on anatomical and clinical findings, and on instruments especially devised to prove his theory.

In repeated reading of the doctor's paper I failed to find any anatomical or clinical evidence or any description of specially devised instruments for measurement to substantiate the claims made. In a few sentences he wipes out all the painstaking and valuable work and findings of physiologists, anatomists, and all other past and present investigators, along this most important and interesting line of work. His claim that the eyeball cannot rotate because the inelastic optic nerve would not allow it to do so, lacks verification. Investigators who have measured the length of this nerve show an average excessive length or slack of 5.6 millimeters, sufficient length for all usual movements of the eyes.*

He has given an excellent description of Tenon's capsule up to the point where he states that—

"In reality Tenon's capsule serves as a sling in which the eyeball

*System, Norris & Oliver, Vol. I., page 214.

rests, a hammock, as it were, and, instead of the eye rotating at its equator in the capsule, it oscillates, swings or rocks in its posterior segment in all the degrees of an arc, the center of movement being the macula region."

Because the doctor failed, in his paper, to prove the theory advanced, I wrote him stating that I disagreed with his findings, and asked him to either give or bring some evidence to prove his claim. I did this to give him an opportunity to present such evidence, because of the feeling that a theory so radical should have more to back it than the belief of the author, which is all that the article shows.

I shall take but two means to show that the doctor is in error in his conclusions as to ocular movements, in the markings of his phorastrobometer, and, consequently, also in his rule for correcting strabismus.

First. A demonstration of ocular rotation.

Second. By diagram showing that it is mechanically impossible for an eyeball to oscillate 45 degrees, .5 degrees less than the average normal lateral movements.

In demonstrating ocular rotation I will ask Dr. ——— to step forward, as he possesses a somewhat prominent eye, in which the equator can readily be seen. Separating the lids and holding a pencil vertically, so that the outer equator of the right eyeball will be in line with the inner edge of the pencil, the doctor looking to the extreme left or inward, note that both the cornea and the equator of the eye have moved towards the median line or nose, but that the outer edge of the eyeball is still in line with the inner edge of the vertically held pencil, and that the eyeball has rotated on its central axis of rotation and not oscillated from the macula; otherwise, the outer edge of the eyeball would have been displaced inward $4\frac{1}{2}$ millimeters. Holding the outer edge of the pencil in line with the inner edge of eye, the doctor looking outward, gives the same result—rotation not oscillation. The eyeball still holds its relative position in the orbit, which it could not do had it oscillated.

The diagram is a six times enlarged tracing of an actual skull, cut horizontally through the middle of the orbits, and is seen from above. "A" the nasal, and "B," "B¹" the temporal boundaries of the orbits, "V" represents the visual lines, "M" and "M¹" the macular, "C" and "C¹" the center of rotation or radius of the retinal curve. The line "V¹" represents the left eye converged 45 degrees under the accepted center of rotation, the radius of the retinal curve. "X" in the left eye shows the line of vision from the macula "M" through the anterior pole as represented by Dr. George, the anterior part of the eye or cornea "K" passing along the curve "P," the visual line "X" intersecting the curve "P" at "N." after crossing the visual line "V¹" directed at a visual angle of 45 degrees. It is readily seen that the two visual lines do not coincide. Dr. George is swinging the eyeball around the

circle "P," which is twice the diameter of the eyeball, and not the circumference of the eye.

If the eyeball oscillated inward as claimed by Dr. George it would impinge on the nasal boundary at O, while the visual angle X is convergent but 22.5 degrees; to obtain even this restricted visual angle the orbital space would have to be enlarged and Tenon's capsule would have to be a very elastic structure (contrary to the doctor's description of that membrane), and at least the fatty contents of the orbital cavities would have to be semi-liquid to allow lateral, vertical and angular displacements.

Diagram of the right eyes shows that the distance between V the visual line pointing straight ahead and X' is greater than the distance between V and V''. The front of Dr. George's X' oscillated eye is seen to have moved a greater distance outward than the rotated eye has at the visual line X'. Dr. George's oscillated eye having diverged only 22.5 degrees while the visual line of the rotated eye V'' has diverged 45 degrees with less circular movement as above stated.

Dr. George's oscillated eye, in order to obtain a visual angle of 45 degrees carries the outer equator of the eye nearly 5mm. beyond the temporal boundary B'. Thus it is seen that it is not only impracticable but anatomically and mechanically impossible for the eyeball to oscillate from the macula, also that the muscular action would be doubled if oscillation was possible.

Diagnosis.—In his diagnosis the doctor depends on the findings of Steven's tropometer; entirely disregarding the amount or degree of deviation, also the converging power, and fails to urge the wearing for along time of lenses correcting the refractive error, including wafers to remove all accommodative effort at the near point before proceeding with operative measures.

I think all will agree that many cases, even of considerable degree of strabismus, especially the divergent variety, will show relatively normal tropometer readings. To depend on these readings alone certainly would be misleading, and I can only believe, in this connection, that the doctor failed to mention that he takes into consideration both the degree of deviation and the power of convergence before proceeding with operative procedure.

Technique.—In his operative technique the author, in exposing the muscle, specifically directs that the muscle be stripped of its capsular covering, both in the tucking and recession of a muscle. This procedure I believe to be a grave mistake; the capsular covering, especially of the muscle to be tucked, should be carefully preserved, as it has more holding power during the healing process than the muscle itself has; and the doctor's reported failures were, in part, in all probability due to stripping the capsular covering from the muscle and to a faulty suture.

I shall also have to take issue with the doctor's tucking suture.

That portion of the suture placed under the muscle not only becomes useless in retaining or holding the tucked muscle in place, but it actually becomes an obstruction, as it prevents close apposition of the muscle to the tendon and retards union at the center of the tuck to the extent of the cross thread.

The total holding strength depends on the small amount of muscle fiber held in the two loops made in placing the suture; in all, not over 3 mm. of muscular tissue; the capsule having been stripped from the muscle.

Dr. George sent me a model showing his suture; at the other end is shown the suture first published in 1909. Compare them and it will be plainly evident which suture has the proper holding power. Articles published in the Archives of Ophthalmology in May, 1909 and 1912, show this suture in detail and instruments to accurately gauge, and a rule to govern operative procedures. Also shows in detail why it is important to preserve Tenon's capsule covering the muscle.

An article published in the Transactions of the American Homœopathic Ophthalmological, Otological and Laryngological Society in 1911, page 69, positively shows why it is wrong to tenotomize an internal rectus muscle. I am exceedingly sorry to see the author retrogress in this particular, and advocate the recession of an internus to correct convergent strabismus.

Etiology.—As I have exceeded my allotted time, rather than ask your further indulgence by taking up the etiology of strabismus, I will refer those who are interested to an article presented at our meeting in Chicago, last year, that accounts for acquired convergent strabismus, and will close my discussion by asking the doctor to state how many cases of congenital convergent strabismus he has seen?

DR. RITCHIE: There is probably no class of operations in the domain of ophthalmic surgery that calls for more careful study, greater skill and discriminating judgment than those undertaken for the correction of imbalance of the extrinsic ocular muscles.

It is essential that the operator should possess an intimate knowledge of the anatomy and the physiological action of the muscular apparatus, and be able to interpret correctly the manifestations of any disturbance of its equilibrium. Each case presents its peculiarities and calls for individual study. No general rule can be formulated which is applicable to all cases.

I quite agree with the essayist that in the past there has been too much indiscriminate cutting of tendons and attempts at readjustment of the ocular muscles, without a well defined conception on the part of the operator as to the exact result, both immediate and final, of his operative work, simply because he has not had in view the restoration of perfect muscular equilibrium.

Some of the statements made by the essayist are startling, revolutionary and iconoclastic. He attacks the accepted fact of the rotatory motion of the eyeball about a point on the optic axis 10 millimeters from the posterior pole, which corresponds with the point of intersection of the axes of rotation of the several bulbar muscles, and offers in its place the theory that the eyeball is anchored to the capsule of Tenon at a point on the external surface of the sclera corresponding to the fovea centralis, and, in its movements, oscillates about this fixed point, "the only rotatory motion of the eyeball" being "that on the antero-posterior diameter"; at least that is the conclusion I draw from his paper.

Although he states that he has arrived at these conclusions "by clinical observation and experiments with instruments especially devised for the purpose," I confess that I still remain in the class with those from Missouri—I have to be shown!

I fail to interpret the anatomical construction of the orbit and its contents as supporting his theory of the oscillatory movement of the eyeball rather than that of rotation.

The time allowed for the discussion is too short to enter into all the points involved, and I shall content myself with the elucidation of a few only.

1st. The Palpebral Aperture.—This is from 28 to 30 millimeters in length, of which from 5 to 7 millimeters are occupied by the lacus lachrymalis, leaving but 23 millimeters available for visual purposes during the excursion of the eye from extreme abversion to that of extreme adversion.

If we adopt the theory of the essayist as to the movements of the eyeball, then in passing from the primary position to that of extreme adversion, the anterior pole of the eye, in describing an arc of 50° , would traverse a distance of approximately 20 millimeters, measured on the chord of that arc, or 18 millimeters measured on the sinus of the arc, the latter coinciding more closely with the palpebral aperture. If we assume the visual line to bisect it at mid-distance, there would be but 11.5 millimeters available; but an arc of 50° with a radius of 24 millimeters, as called for by the theory of the author of the paper, would result in a sine of approximately 18 millimeters; the result would be that the visual line would pass beyond the extreme point available for vision to the extent of 7 millimeters. The same would be true in extreme abversion except that the sine of the arc in this instance would be 17 millimeters in length, consequently the visual line would pass about 6 millimeters beyond the external commissure of the lids. It can be readily shown that the upward excursion of 80° and the downward excursion of 50° is incompatible with the visual act under the hypothesis of the essayist.

2d. The Orbit.—The general shape of the bony orbit is that of a prostrate pyramid with rounded angles, the base corresponding to the

anterior opening of the orbit. The latter is 41.6 millimeters wide, 34 millimeters high and 38.9 millimeters in depth. Thus it will be evident that its diameter decreases quite rapidly as we pass backward to the apex; a plane cutting the orbit and passing through the equator of the eye would disclose an orbital diameter at that point of approximately 35 millimeters.

The eyeball is 23.9 millimeters in its transverse diameter, 23.5 millimeters in its vertical diameter and 24 millimeters in its antero-posterior diameter. It is set in the orbit so that its equatorial region is about equidistant from the bony walls.

Let us again consider the movements of the eyeball in the horizontal plane, and again admit, for sake of argument, the contention of the essayist. It would follow that in passing from a position of extreme adversion to that of extreme abversion the eye would swing through an arc of 95° , and the extreme limit of such an excursion would be measured by a line passing from the temporal side of the globe through the center of curvature, the eye being in the position of extreme abversion, thence through a point corresponding to the center of curvature to the nasal side, the eye being in the position of extreme adversion. The length of such a line would be approximately 41 millimeters, a distance greater than the transverse diameter of the bony orbit at the equatorial region of the eye, by 6 millimeters, and this too with no allowance being made for the space occupied by orbital fat, connective tissue, muscles, vessels and nerves.

3d. The Optic Nerve.—The author of the paper uses as one of his arguments against the rotatory movement of the eyeball, the fact that “while the optic nerve and its sheaths are flexible, they are non-elastic, consequently are not capable of stretching sufficiently to allow the head of the optic nerve to describe an arc corresponding to that described by the anterior pole.”

He has evidently overlooked the fact that the average distance from the posterior pole of the eye to the optic foramen is but 18 millimeters while the average length of the intraorbital portion of the optic nerve is 23.6 millimeters, and that it describes a long sigmoid curve in the horizontal plane, and also exhibits an abrupt downward sweep before passing forward. Furthermore, the fatty tissue filling the muscle cone is extremely fine, the fat cells being held in a very loose mesh of connective tissue, forming a bed in which the nerve can move with the least possible resistance.

We will pass over the action of the individual muscles, simply calling attention to the fact that the essayist apparently overlooked the inward movement imparted by the vertical muscles, and also their effect upon the vertical meridian. These functions are easily demonstrated, and to deny them would be at variance with phenomena attending paralyses of the muscles.

In answer to the assertion that “fixed vision and object finding

would be most complicated and difficult" were the accepted idea of the rotatory movement of the eyeball true, I would call attention to the act of locomotion, the function of sight, of audition and a score of other functions of the human organism as being fully, if not more complicated than the rotatory movement of the eyeball.

In concluding the discussion of this portion of the paper I maintain that the rotatory movement of the eyeball is the only theory that is consistent with the anatomical structure and the physiological phenomena.

Heterotropia.—The etiology of strabismus or heterotropia is an open question, inasmuch as all the factors are either not known or that in the interpretation of them some are overlooked.

The author of the paper evidently accepts, at least in part, the theory first advanced by Donders, namely, that the refractive condition of the eyes are to a great extent responsible for the production of esotropia, as in speaking of the so-called periodic form, he cites hypermetropia and hypermetropic astigmatia calling for excessive convergence, and this causing the images in the two eyes to fall outside of the macula, and giving rise to indistinct images, the patient fixes with one eye, allowing the other to deviate and heterotropia results.

If the above theory of its production were true, the squint would occur only in relatively moderate degrees of refractive error, and when attempting to fix objects situated within a short distance, or when for any reason the patient's muscular or nervous tone was below par. In higher degrees of refractive error the esotropia would be constant, except in those cases in which the accommodation was insufficient to enable the patient to see at infinity; in the latter instance there would be no deviation.

There is a factor which has been overlooked by those subscribing to the theory before mentioned, which is that it is possible to disassociate the acts of accommodation and convergence. In cases of paralysis of accommodation, the function of convergence is not affected in the least. Presbyopia, in which the loss of accommodation is gradual, is not accompanied by a corresponding increase of convergence. Convergence may be abolished without the loss of accommodation, as is evidenced in paralysis of the interni and ophthalmoplegia externa. As Stevens says, "these two functions * * * so act as a result of habitual not of organic association. Training or a necessity which would interpose important obstacles to the habitual association of action quickly enables the individual to disassociate the two functions absolutely."

This habitual association is such that for each diopter of accommodation there is a corresponding convergence of one meter angle, or $1^{\circ} 50'$, not 2° as stated by the essayist. This discrepancy of $10'$ may seem inconsiderable, but it amounts to one-sixth of a degree, and in an esotropia of 20° would show an error of $3^{\circ} 20'$.

The author states that this (periodic) variety of esotropia disappears with the correction of the "ocular" (I take it that he means refractive) defect. Stevens asserts that by far the greater number of cases of esotropia are associated with a vertical error, and that in these cases the glasses prescribed for the correction of the refractive error acts also as a prism to relieve the vertical muscular error, for "it is quite possible for the eyes to seek such a level of each glass as to find such a prismatic correction of hyperphoria as to relieve the strabismus." He further cites cases in support of this in which the correcting glasses approximately corrected the esotropia, the defect reappearing when the glasses were removed. On substituting a prism, base vertical, the esotropia disappeared completely.

I fail to find any mention of the lack of development of the fusion centers as an etiological factor in the production of strabismus, nor is any space devoted to the training of these centers, or of orthoptic exercise in its treatment. The scope of the paper is altogether too broad as announced by the title.

It is impossible to discuss the paper exhaustively, and I have already exceeded the time allotted, but before closing I desire to enter a protest against the use of general anæsthesia in this class of operations. Under a general anæsthetic the eyes roll upward and outward, a squint disappears and the position of the eyes makes operative procedure more difficult. Furthermore, it is subjecting the patient to unnecessary risks. In my own operations, during the past twelve years or more, I have used with satisfaction equal parts of Waite's local anæsthetic and adrenalin chloride 1/1000, injecting it freely into the tissues about the seat of operation.

I am in a receptive frame of mind, but up to the present, I have failed to be convinced that in the surgical correction of heterophoria, gauging the effect by the linear amount of lengthening or shortening of a tendon is the most desirable. As has been my custom, I use this method as a preliminary to the final adjustment of the sutures, which in all cases in which there is binocular single vision, are finally adjusted under the diplopia test. This test together with the information which it affords would be impossible under a general anæsthetic.

In concluding my discussion of the paper, I wish to say that if I have appeared to be somewhat severe or ungracious in the manner in which I have presented my views, it was done in the kindest spirit, my only desire being to uphold my contentions in a scientific presentation of facts and without the least feeling of animosity toward the author

NASAL BREATHING INCHES AS FACTORS IN CHRONIC AFFECTIONS.*

J. R. McCLEARY, M. D.,
Cincinnati, Ohio.

SEVERAL years ago I wondered at the great power of reflex of the "pile bearing inch," and later, as I became more interested in the nose, my astonishment increased as I became acquainted with the many factors associated therewith.

I believe there are times when specialism is belittled and the specialist discredited because of the biased judgment of a few ultra-enthusiasts who variously acclaim the positive cause and cure for all such cases as spinal irritation, insomnia, paralysis, epilepsy, mental apathy, vertigo, tinnitus and many others.

But eliminating the enthusiast the evidence accumulated from the experience of oculists, rhinologists, gastro-intestinal experts, orificial surgeons, gynæcologists and other specialists, warrants faith in their work and its merits.

We know that numerous symptoms marvelously similar are pathognomonic of variously dissimilar dominant causes. Correct conclusions are possible only after considering the many probable causes of subjective and objective symptoms in which the resemblance obscures the actual nature of the disease and its origin.

Many acute diseases tend to recovery without the assistance of medicine, although with its aid the cure is hastened. Furthermore, many of these diseases are arrested in their incipency by the internal administration of the similimum; in other words, an actual cure is obtained even though the disease was never diagnosed and its causal factors determined.

In many of these acute conditions the etiology, diagnosis and prognosis are held unessential in the treatment and cure, but the very fact that recovery of acute conditions is possible even in the face of ignorance, should be no excuse for careless methods which tend toward therapeutic nihilism and skepticism in scientific medicine.

Unfortunately there are some who truly believe that what they fail to cure is beyond the pale of human aid, but in truth failure simply

*Read at the meeting of the Kentucky Homœopathic Medical Society.

proves the continued action of some hidden cause which must be removed before the cure is possible.

The successes of special treatments are frequently due to the discovery of obscure causes that may be overcome by mechanical aids or destroyed through surgical measures.

Slight structural lesions are easily overlooked and their possible evil effects unnoticed. This disregard of seeming trifles, which are really the important factors, may be the reason for one man's failure, while their recognition by another may be his keynote to success. Localized irritation of the nerves no doubt disturbs the vascular equilibrium in parts both proximal and remote. The path of excitation passes through the sympathetic or cerebro-spinal routes and causes congestions that may be transitory or prolonged, lasting as long as the active nervous irritation persists.

The maiden's blush and the hectic flush are fair examples, the former resulting from external influences that shock the sympathetic and occasion vaso-motor disturbance with momentary suffusion of parts that are unchanged after the blush subsides. On the other hand, the hectic flush is the result of long-continued structural changes and distant nervous irritation, more or less constant in action, inducing at first the brilliant glow that foretells the ensuing destruction.

The blush and the hectic flush suggest the extremes of negative and positive possibilities subsequent to the ever-associated relations existing between the nervous and vascular forces. One is from an external cause and effects a functional disturbance of short duration with no sequent destruction. The other is the result of internal structural change gradually evolved from a primary functional imbalance. In either case the dominant cause is remote and local treatment would prove ineffectual, but the curing of the local affection depends upon the restoration of the vital balance.

These two conditions tend to illustrate the general relationship existing between the nervous and vascular systems and especially their dominance over all metabolic processes.

Whenever a local condition acts as a constant irritation to the nervous system and is recognized as a dominant factor in a chronic disease, it will be found that structural changes necessitating mechanical interference for the relief of the local condition effects a cure of the chronic condition. To condense it all: Disease is the effect of dual causes, predisposing and exciting.

In all diseases two influences are active, viz., nervous and vascular.

The inherent power of every cell is to recover from injury, therefore, many acute diseases are self-limiting and health may be re-established without recourse to medicine. Proper drug therapy aborts many diseases in their incipency, and in others establishes positive cures, wherein otherwise some acute or sub-acute affections would be attended with disastrous sequelæ.

Chronic disease and individual symptoms of persistent nature are oftentimes the result of some undiscovered distant structural fault acting as the dominant cause. Drugs will relieve symptoms of such origin, but cure is obtained only from surgical procedure or other mechanical aid for the relief of the exciting cause.

Subjective symptoms may suggest a possible cause, while evidence gathered from an objective examination tells us more conclusively the location and nature of the cause, and thereby indicates the proper line of treatment.

All of this may be applied to any specialty, but I am trying to advance a logical explanation for the many reflex conditions caused by some abnormality in the nasal cavity in particular.

These nasal breathing inches have their many functions to perform like other parts of the organism. Any interference with it not only alters its function but causes the brunt of the blow to be felt elsewhere.

The nasal mucous membrane possesses inherent possibilities for the détermination of causes operating elsewhere to produce symptoms which may persist in spite of carefully selected treatment.

The following case records emphasize the fact that after unsuccessful treatment of chronic affections a thorough rhinoscopic examination can do no harm, and may be of untold value to the physician in suggesting treatment and thereby a benefit to the patient.

Mr. G., traveling salesman, 45 years of age, consulted me about one year or so ago to have his eyes examined, as he had suffered almost continuously with pain through the right side of the head, centering in the temporal side of the eye. His suffering was so intense at times that it incapacitated him in his business. Glasses had been worn for a considerable period, and the prescription changed upon several occasions without benefit. Finally (afterward) feeling that he had not been benefited he was referred to a neurologist. The interesting point in this case is, that at no time previous to consulting me had the nose been examined or even suggested as a possible cause

of his headaches; different men had been consulted, and each had made careful examinations of the vital and lesser organs, in addition to the eyes. The character of the pain suggested the possibilities of fault in either the eyes or nose, and since examination of the eyes showed but a moderate hyperopic astigmatism, which had previously been corrected without benefit, I extended the examination to the nasal cavity and decided that the cause of the headaches was due to an abnormality in the form of a septal spur on the right side, which was in contact with the inferior turbinate. Surgical interference remedied this affection of years' duration, and up to date there has been no return of the trouble, glasses being required for reading and near work only. This case is of decided interest, since by simply examining the nose the failures of my predecessors in the case were explained, and the reason for diagnosis of neurasthenia established. The symptoms were pronounced though their etiology had been an unsolved mystery. Accepting the correctness of this diagnosis, it is permissible to acclaim a cure of neurasthenia and the associated migraine by the simplest kind of nasal surgery. However, I wish to refute any possible claim that nasal surgery is the one cure for neurasthenia, and I wish to add that if the classic symptoms for which neurasthenia is a convenient synonym persist despite careful treatment, and the dominant cause is obscure, then a rhinoscopic examination is essentially a duty to the patient; but experience suggests the wisdom of an early nasal examination as a routine measure in the primary examination of patients who present symptoms of neurasthenia.

Case E. A young lady, twenty years of age, consulted me two years ago for treatment of persistent and progressive amaurosis, with widely dilated, inactive pupil of the right eye, and for relief of recurrent right-sided headache centering over the affected eye and always aggravated at the menstrual periods. She had been under treatment since the previous November, about six months, but obtained no relief from the headaches nor improvement in the ocular affection. I was informed that a diagnosis of "paralytic mydriasis" had been made and that her treatment had been "electrical," but was not advised as to the variety employed.

Primary examination determined these facts: V. O. D., 15/100; V. O. S., 15/20. The ophthalmoscope revealed pronounced neuroretinitis of O. D. and mild venous congestion of O. S. The nose

had never been investigated, but rhinoscopic examination readily established the actual and hitherto neglected dominant causal factor of her chronic and progressive ocular disease to be a pronounced hypertrophic rhinitis, the septum and inferior and middle turbinate being in contact and occluding the drainage of the ethmoid cells on both sides. There was also a good-sized septal spur in the left nares low down and in contact with the inferior turbinate. Full consideration of the ocular affection and the influence of the nose as the causal factor warranted the diagnosis of neuro-retinitis with functional disturbance of the pupil of the right eye; the predominant cause was the nasal condition. Intra-nasal treatment proved most beneficial, and after one month the vision of the O. D. equaled 15/30, and that of the O. S. 15/15. The pupil of the right eye was nearly normal in size, being but a trifle larger than that of the left eye. The ophthalmoscope showed absolute subsidence of the congestion in the left eye and but a mild congestion remained in the right eye. Subsequent examination revealed no retrogression, although the septal spur still remains, but both nares are readily kept free and open through daily use of intra-nasal treatment.

The nose is a much more frequent cause of chronic affections than is generally supposed, and its study will serve to disclose many an obscure cause of persistent symptoms, and will suggest appropriate treatment. Headache on awakening, which passes off shortly after rising, or that which is more or less constant and confined to one side of the head, is decidedly indicative that the nose is the probable cause.

Seventy-five per cent. of the 20,000,000 school children in this country are suffering from some partially or completely remedial defect which is interfering more or less with their physical, mental and moral development.

- 1,000,000 have defective hearing.
- 5,000,000 have defective vision.
- 6,000,000 have operable tonsils and adenoids.
- 10,000,000 have defective teeth.

—*Equitable Life Ins. Co.*

DIONIN IN OPHTHALMOLOGY (ETHYL MORPHIN HYDROCHLORATE).

HENRY L. GOWENS, JR., M. D.,

Philadelphia, Pa.

DIONIN was discovered in 1899 by Mehring,¹ according to one writer, and by Grimaux,² according to another writer. However it was first introduced by Merck under its trade name and was first brought before the public as to its use in ophthalmology by Darier in 1900. Since that time Batalow, Graefe, Reter, Bourdeaux, Wolfberg, Thumen, Hultgren, Fellows, Bulson, Buccanyi, Fasano, Reber, Rhan, Dowling, Curacciolo, Meitmer, Steele, Spoto, McKee, Hood, Snyder, Kayser, Chevalier, Axenfeld, Hinshelwood, von Arlt, Zinn, Sylla, Reif, Bonsignorio, Toczyski, and many others have recorded their experiences with Dionin. Fifteen years' service for Dionin finds it still in demand.

Dionin³ (unofficial), the hydrochloride of the mon-ethyl ester of morphin, occurs as a white powder soluble in 7 of water and in 2 of alcohol. It possesses the analgesic and narcotic properties of morphin but without its intensity, is probably the most innocuous of the morphin derivatives, and may be used in children. It does not seem to give rise to any habit when its administration is prolonged.

⁴If a little finely powdered Dionin is placed in the conjunctival sac or a 5 % (five per cent.) solution is instilled, a moderate injection of the eye develops within a few minutes, associated with some burning and with a very marked œdema of the conjunctiva so that a tense chemosis is produced (often with considerable puffiness of the lids). This inflammatory œdema disappears after some hours. With repeated applications the effect of the drug progressively diminishes. There is no doubt but that the exudation of blood serum in large quantities into the conjunctiva may act to modify the circulation in the eye. To Dionin, therefore, has been attributed the property of facilitating absorption.

Fuchs recommends that Dionin powder be dusted into the eye in cases of phlyctenular conjunctivitis accompanied by photophobia and blepharospasm; in extravasation of serum and blood beneath the conjunctiva to facilitate absorption; in the treatment of ulcers of the

cornea during the period of cicatrization, in marked photophobia in parenchymatous keratitis, in episcleritis associated with violent pain; and in violent ciliary pain in iritis and cystitis where he uses the powder in the conjunctival sac or the 5 per cent. solution.

Thomas⁵ recommends Dionin (5 per cent. to 8 per cent. solution) in clearing away the pannus following trachoma.

Darier^{6 7} recommends Dionin in alternation with the sub-conjunctival injection of lithium benzoate in old leucomata. Dionin may be injected into the temple half an hour before operation, when short operations on the eye are apt to be painful, because of its deep analgesic action of long duration. The initial burning sensation of Dionin is prevented by the addition to the solution of a one per cent. solution of Acoin; this also aids the analgesic effect of Dionin. Darier quotes Simi, A. Terson, Konigstein and Gaupillet to substantiate his experience in the analgesic effect of Dionin in glaucoma. He uses it in vascular keratitis accompanied by violent pain and intense photophobia; in pustular keratitis with photophobia, and in rheumatic episcleritis. In all the uses of Dionin no sneezing will occur if the eye-episcleritis. In all the uses of Dionin no sneezing will occur if the eyelids are kept closed. Ordinarily Darier does not recommend Dionin in acute exudations, as in parenchymatous keratitis, or simple contusion accompanied by slight corneal cloudiness. which is liable to be mistaken for a commencing parenchymatous keratitis, or in recent infiltration of the cornea caused by slight scratches and foreign bodies, except for a very short period. He uses it, however, in hastening the clearing of the pupillary field after the operation for cataract or discission of the crystalline lens in myopes; in chorioiditis, retinitis, and opacities of the vitreous. In a case (Graefe, Wicherkiewicz, Andoski) of retrobulbar neuritis with very marked central scotoma, due to exposure to cold, the vision improved so rapidly that one could only conclude, writes Darier, that the result was due to Dionin. He recommends it as a massage-agent in trachoma; in purulent ophthalmia with swollen and indurated eyelids; in conjunctivitis and keratitis with diphtheritic or pseudo-membranes; also following extraction of foreign bodies from the cornea where occlusive dressing cannot be used; in grave infective ulceration of the cornea, and previous to application of galvano-cautery in ulceration of the cornea; in diplobacillary infection; in cataract operation to cover the wound with conjunctiva; in herpes febrilis; in

herpes corneæ; in zona ophthalmica; in pemphigus; in acne rosacea; in marginal ulceration; in keratomalacia; in striated keratitis: in penetration of a foreign body into the cornea; in corneal opacities; in glaucoma; in senile cataract; in relapsing central retinitis, and in detachment of the retina. As to the history of the deep analgesic action of Dionin and also as to the ability of Dionin to assist in the breaking up of adhesions of the iris to the lens and cornea. Darier cites the following case: A woman was affected by a very acute and painful form of rheumatic iritis which allowed her no sleep at night. After several attempts to dilate the pupil by Atropin, Dionin was placed in the conjunctival cul-de-sac. Following this the patient experienced no more pain and passed two excellent nights.

Von Arlt⁸ reports a man 48 years of age who found that the sight of his only useful eye was failing. Ten days later an examination showed a myopia of 5 D, $V = 5/viii$, and an oval hæmorrhage near the macula with a corresponding scotoma. Color sense showed diminution of one-half for green alone. No change having occurred in eight days, 0.005 gm. of Dionin was placed in the conjunctival sac. In three minutes there was a marked lymphatic engorgement which had reached its height in ten minutes. Five minutes later the patient remarked that the spot before the eye was smaller and fainter. $V = 5/vi$ pt. Next day $V = 5/vi$ pt. The hæmorrhage, the difference in the color sense and the scotoma had entirely disappeared. About one month later the patient returned with episcleritis but the vision was normal. The author, writes one authority, had no scruples in crediting Dionin with the results, as he stated that he followed the case before, during and after the employment of a single therapeutic measure exhibiting the deep action of Dionin.

Exception: As a result of Dionin's intense action upon the eye itself as a sensory stimulus, myosis may some time result.

As to the strength Hanke⁹ recommends from ten to fifteen per cent. as the maximum for use in ophthalmology, taken from the medical literature.

Reber¹⁰ reports the complete absorption of the lens after the prolonged use of Dionin.

In the use of Dionin one must always be mindful of the following:

First, that the patient must be told that there will occur the burning sensation as soon as Dionin comes in contact with the conjunctiva.

Second, that there may be besides the swelling of the conjunctiva also a puffiness of the lids.

Third, that because of individual peculiarity (susceptibility in some causes safety in the use of the drug demands a one, two or three per cent. solution in its initial use.

Fourth, that the prolonged effect of the drug is best obtained by the use of a weak solution at the beginning, increasing as the effect is diminished, or the single use of a strong solution at long intervals.

Fifth, without an exception the drug should first be used in a case by the physician, and only prescribed for home use where circumstances prevent the patient's daily attendance at the office or clinic of the prescriber, for the reason that the results of its action when otherwise employed may cause a patient to become dissatisfied and seek treatment elsewhere.

BIBLIOGRAPHY.

- ¹Wood, Casey A., M. D., *Ophthalmology*, 1911.
- ²Snyder, W. H., J. A. M. A., Chicago, 1905, Vol. XLV.
- ³Potter, S. O., *Materia Medica*, etc., 10th edition, 1908.
- ⁴Fuchs, E., 3d edition, 1908.
- ⁵Bartlett, C., *Clinical Med.*, 1908.
- ⁶Darier, *Ophth. Klin.*, Vol. VII, 1900.
- ⁷Idem, Pyle, W. L., *Therapeutics*, 1910.
- ⁸Von Arlt, *Woch. f. Therapie u. Hyg. des Auges*, March 19, 1908.
- ⁹Hanke, V. D., *Treatment Dis. Eye*, 1905.
- ¹⁰Reber, W., *Therap. Gaz.*, Detroit, 1914.
- 1636 Walnut St.

TRANSPARENT PREPARATIONS.

Courtesy of B. F. KINGSBURY, PH. D., M. D.,

Professor of Histology and Embryology, Cornell University.

For Bone.— 1. Tissue should be formalin or alcohol tissue.

2. 50%, 67% alcohol, 1-3 days each.
3. Bleach with 10% peroxide soln. in 67% alcohol.
4. 82% alcohol several days, change once.
5. Stain for 2 days to 2 weeks (depending upon size) in a saturated solution of alizarin in 82% alcohol with five drops glacial acetic acid per 100 cc.
6. Wash out excess stain with 82% alcohol.
7. Dehydrate in 95% alcohol several days, 2 changes, and in absolute alcohol 2 or more days, 2 changes (best).
8. Place in benzol (benzene) and change once.
9. Place in oil of wintergreen, 1 to 4 parts; benzyl benzoate, 2-5 parts. The older the tissue or specimen the more of the benzyl benzoate.
10. Preserve in sealed jars in No. 9. Bone pink.

For Cartilage (blue).— 1. Alcohol or formalin tissue material required.

2. 50%, 67% alcohol, 2 or more days in each.
3. Bleach, if desired, with 10% peroxid in 67% alcohol several days to a week (according to size).
4. Place in 67% alcohol + 1% HCl several days.
5. Place in 67% alcohol + 1% HCl + $\frac{1}{4}$ % methylene blue, several days to weeks.
6. Wash out excess stain by placing in 67% alcohol + 1% HCl, changing to fresh when colored, leaving specimen in this until color is extracted from all except cartilage—or nearly so.
7. Place in 82% alcohol several days, changing twice.

8. Dehydrate by placing in 95% alcohol, several days, changing twice, absolute alcohol 2 or more days, changing once.
 9. Place in benzol, toluol or zylol, 2 changes.
 10. Preserve in zylol or in the bone preservative (oil of wintergreen + benzyl benzoate) in sealed jars. Cartilage deep blue.
-

Books as Infection Carriers. O. B. Nesbit, of Valparaiso, Ind., reports the results of an investigation made to determine the part played by the books of the local circulating library in the spread of scarlet fever during the years 1908, 1909, 1910 and 1911. Books coming from houses where there were contagious diseases were destroyed. A number of cases were investigated, and Nesbit found very little evidence of the disease being carried by them. He believes the following conclusions warranted by the investigation: "1. If books act as carriers, it is only immediately after being contaminated with the discharges of the patient; yet this investigation has failed to reveal a single instance of this kind. 2. Books that have been used by scarlet fever patients do not long contain the infection in such a way as to transmit the disease to man." Nesbit adds that: "Any book that has been handled by a scarlet fever patient should be burned or fumigated. The most practical method of book disinfection at this time is the Beebe carbogasoline method. This consists in using gas-machine gasoline and 2 per cent. phenol crystals; the books are immersed in this mixture for twenty minutes, removed and placed before an electric fan for two minutes, and then set on end for from twenty-four to forty-eight hours. The supplementary study books used in the Valparaiso public schools were all disinfected by this method last September. Prof. A. A. Hughart and I devised an apparatus for this, consisting of a zinc tank 21 inches long, 15 inches deep, and 8 inches wide, with tight-fitting cover. A faucet in one end near the bottom drains off the gasoline; zinc strips bent in suitable form to serve as racks facilitate in handling of the books."—*Jour. Amer. Med. Assoc.*

ANNOUNCEMENT.

SPECIAL ANESTHESIA SUPPLEMENT.

Recent years have been marked by some important contributions to the theory and especially to the practice of surgical anesthesia, but there has lacked what is now quite needed for the further scientific development of this alongside the other departments of surgery—a journalistic medium and editorial mouthpiece.

The *American Journal of Surgery* will be expanded to meet this need. Beginning with the October issue and quarterly thereafter, this journal will publish a 32 page supplement devoted exclusively to Anesthesia and analgesia.

This supplement will be a complete journal within a journal containing editorials, contributed articles and communications, abstracts, transactions of societies and book reviews.

The supplement has been adopted as the official organ of the American Association of Anesthetists and the Scottish Society of Anesthetists, and it will also publish the transactions of other like societies.

The editor of this supplement will be Dr. F. Hoeffler McMechan, of Cincinnati, one of the founders of the American Association of Anesthetists and a charter member of the New York Society of Anesthetists.

He will be assisted by a staff of well known specialists in anesthesia, among whom we would mention:

Dr. James T. Gwathmey, New York; Dr. Willis D. Gatch, Indianapolis, Ind.; Dr. William Harper De Ford, Des Moines, Ia.; Dr. Charles K. Teter, Cleveland, O.; Dr. E. I. McKesson, Toledo, O.; Dr. Isabella C. Herb, Chicago, Ill., and Yandel Henderson, of Yale University.

HOMŒOPATHIC MATERIA MEDICA AND THERAPEUTICS.

Aconite napellus in Eye Diseases.

CHARLES H. HUBBARD, M. D., Chester, Pa.

At the 26th annual meeting of the O., O. and L. Society held in Chicago, July 1-3, 1913, Dr. Chas. H. Helfrich, of New York, read a carefully prepared paper on "Some of the More Useful Remedies in Ocular Therapeutics," and gave it as his opinion that Aconite, Rhus tox. and Hepar s. are the "most important remedies in ocular therapeutics."

In discussing the paper at that time I made the following statement: "That the trinity of remedies to which Dr. Helfrich gives first place in ocular therapeutics, after careful consideration, I am bound to agree with." And I have no reason to change that belief, though there are not a few that may justly claim equal value in ocular diseases.

Aconite; in the acute stage of inflammation, with pain, dryness, heat and burning, with its characteristic restlessness, fear, anxiety and aggravation at night, particularly if due to exposure to dry, cold winds or from cooling too suddenly after overheating. Pains usually sticking, tearing in or around eyes. Its symptoms are always sthenic and never intermittent. In the first stage of ocular inflammation it is always to be thought of. Lacrimation, if any, is slight unless due to trauma. Of great value following surgical operations and inflammations resulting from a foreign body in the eye. It is indicated in glaucoma, in scleritis and episcleritis, and also in acute plastic iritis when the following symptoms exist: A sensation as though eye was enlarged and being forced out, the pain is intense and is increased by touch or movement, with marked photophobia; generally a contracted pupil, the pain often extending down the face. These symptoms would also suggest its use in neuralgia. Of use in superficial ulceration of cornea, the result of trauma. It is indicated in acute inflammation of the lids and lacrimal sac. In paralysis or paresis from involvement of the third nerve, due to exposure to cold or an injury. In asthenopia from abuse or overuse of the eyes, the lids feel tired or heavy, with injection or inflammation of the palpebral and ocular conjunctiva, the eyes feeling hot and dry, and at times a sensation of sand in the eyes. Cold applications relieve.

Farrington says, Sulphur is the proper remedy when Aconite has been abused.

Thlaspi bursa pastoris.

CHARLES H. HUBBARD, M. D., Chester, Pa.

We have reason to believe that it is not generally known nor fully appreciated that *Thlaspi* is a valuable remedy for bleeding in nasal operations. It is best given in five drop doses of the tincture, every one to three hours, according to conditions following surgical procedures. Its special indication being a *passive* hæmorrhage, that not infrequently annoys both surgeon and patient. This distinguishing characteristic of *Thlaspi* is manifest throughout its entire proving—imperfect as it is—being particularly marked by its action upon the uterus and kidneys, where this *passive* hemorrhagic tendency exists, though the bleeding may be copious at times. Notwithstanding “passivity” is its keynote in nasal epistaxis, it is also of use when the bleeding is due to trauma—even ordinary blowing of the nose. It may be used locally, but its unfortunate tendency to cause eruptions, swellings and burning of the tissues to which it is applied, in a large measure contra-indicates its employment as an external medicament.

Where intra-nasal operations are proposed it should be given several times a day for a few days preceding the operation, and then use it more frequently after surgical interference.

CURRENT LITERATURE.

J. OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY. August.

*1. The problem of the stammering child. Elmer S. Kenyon.

2. Chicago Ophthalmological Society:

Glaucoma following cataract extraction,

Eye disease and autointoxication,

Prognosis in eye injuries,

The modern theory of pneumococcic infection of the eye.

3. Chicago Laryngological and Otological Society:

Lip reading for the adult deaf,

Diseases of the antrum.

4. Congress of the American Laryngological Association:

The air we breathe,

Primary lupus of the larynx.

*1. The same fundamental principles carried out in cultivating the singing voice should be carried out in the treatment of stammering.

Eye diseases and autointoxication.—Many eye cases are cleared up by a thorough analysis. Acidaemia should be looked for.

Prognosis in eye injuries.—The needling operation for cataract is not entirely without danger. Do not place too much reliance upon the word of the patient as to the presence of a foreign body in the eye. Make an x-ray examination even if you cannot find the point of penetration.

Modern theory of pneumococcic eye infection.—It has frequently been shown that the pneumococcus in a 24 hour culture will assume one of three types: 1st type, small, delicate lanceolate pneumococcus—very virulent. 2d type, the larger diplococcus, somewhat more rounded—not so virulent—is more common. 3d type, grows very luxuriantly and is not so highly virulent; it would be taken for a true streptococcus. Ethyl-hydro-cuprein is an absolute specific for true pneumococcus; it is not very penetrating and cannot be used in closed cavities because it is highly toxic. It is very soluble in water and so irritating that it should be preceded by cocain. One per cent. solution is used in the tear sac (with no stenosis) or the eye.

J. L. MOFFAT.

**THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
September.**

Active Immunization in Diphtheria and Treatment by Toxin-Antitoxin. Porh and Zingler.

The property of toxin-antitoxin mixtures to produce immunity in animals has long been known.

The results of this procedure on human beings was first published in 1913 by von Behring, and since then by others.

The combined substances were either neutral or slightly toxic to the guinea pig. Small doses ($1/20$ to $1/10$ cc.) were injected and repeated in seven to ten days; it was observed that the greater the local reaction the more efficient the vaccination.

Hahn reports antitoxin production in 36 out of 40 cases treated. Susceptibility to the immunizing responses to vaccine varies. For instance:

Those patients with a rather high amount of natural antitoxin usually show early and considerable antitoxin production, and also a greater susceptibility to vaccines.

The response is greatest in young adults, while the newborn are 100 times less susceptible.

The local reactions of varying degrees of redness, induration, pain and tenderness, depend upon the size of the dose and individual susceptibility; the latter indicating the presence of natural antitoxin.

Schleich's intracutaneous reaction with dilute diphtheria toxin is employed; this reaction depends on the local irritant action of the toxin in the absence of antitoxin.

If a positive reaction appears it is in 24 to 48 hours, and indicates less than $1/30$ unit of antitoxin in 1 cc. of blood and with those that have none at all he considers susceptible to diphtheria.

G. J. ALEXANDER.

2. The Use of Antitoxin in Diphtheria. Samuel S. Woody.

As the result of personal observation of 10,000 cases of diphtheria Dr. Woody gives us some valuable points relative to the use of antitoxin.

Antitoxin is eminently successful because diphtheria is primarily a local disease.

The resistance of the body to the toxin is by the formation within of an antitoxin; this protective is aided from without by the intro-

duction of an antitoxin serum, which is blood serum from horses immunized against diphtheria poison.

Antitoxin is generally given in too small doses. Our object should be to neutralize all the diphtheria toxin within the body with an excess of antitoxin, to counteract flesh toxins that may be found later.

The initial dose should be large enough to accomplish this, avoid delay, and get more certain and rapid action.

The location, virulence and duration of the infection together with the general condition of the patient, are factors for consideration in determining the size of dose.

No case should receive less than 10,000 units; laryngeal cases 30,000 to 45,000 units. Both tonsils covered, 150,000 to 300,000 units.

Untoward results may occur from the amount of serum and not the antitoxic bodies.

The result of large over small doses is 6.02 against 8.55 in deaths. Greater concentration of the antitoxin, large doses and early administration are the logical deductions.

G. J. ALEXANDER.

THE JOUR. LARYNGOLOGY, RHINOLOGY AND OTOTOLOGY, Sept.

*1. Oculomotor Paralysis of Otic Origin. F. H. Westmacott.

2. Proceedings of the Section of the Royal Soc. of Medicine.

3. Proceedings of the Scottish Otological and Laryngological Section.

Abstract of article on Oculomotor Paralysis of Otic Origin. F. H. Westmacott.

"Otogenic paralysis of the oculomotor nerves and other orbital nerves is well established, but our difficulty arises when we endeavor to establish the pathological lesion present. When paralysis exists with an ipsilateral otorrhea accompanied by headache and vomiting, an exploration of the auditory apparatus should be at once undertaken to determine the extent and limits of the disease, whilst at the same time it should be borne in mind that the examination of the nasal fossæ and the accessory cavities may reveal the focus of the disease, in so much as nasal disease infection is far more common than aural infection in the production of paralysis of the oculo-orbital nerves."

With an examination of the nose appearing negative the possibilities of the causative focus for a total unilateral ophthalmoplegia is to be

sought in the superior orbital fissure, in the cavernous sinus or in the orbit. In cavernous sinus thrombosis there are symptoms referable to the ear, also symptoms of venous congestion. Unilateral total ophthalmoplegia is further produced in conditions of hæmorrhage, exudations, sinus empyema, neoplasms, foreign bodies, such as bullets and thrombosis of the orbital veins going from the sphenoid cavity to the cavernous sinus.

Case cited of ocular palsy produced by a primary cholesteatoma, which had eroded through the tegmen antri, and set up a subdural abscess; the infection worked along the superior petrosal sinus, and so to the trunk of the oculo-motor nerve.

DOUGLAS MACFARLAN.

ANNALS OF OTOTOLOGY, RHINOLOGY AND LARYNGOLOGY, June.

Contents:

1. Studies Regarding Anaphylactic Reactions Occurring in Horse Asthma and Allied Conditions. I. L. Goodale.
2. Intranasal Operation for the Relief of Non-lacrimal Stenosis. E. M. Holmes.
3. The Evolution of the Tonsillotome. S. A. Friedberg.
4. Chronic Influenza of the Nose and Throat. L. B. Lockard.
5. A Study of Vincent's Angina. I. I. Richardson.
6. A Case of Cavernous Sinus Thrombosis Complicating Suppurative Labyrinthitis. Alfred Braun.
7. Nasopharyngeal Hyxosarcoma; Several Operations and Final Spontaneous Recovery Under Observation for Twenty-seven Years. Fletcher Ingals.
8. How the Patient can Help Himself in Chronic Catarrhal Otitis Media. Stephen H. Lutz.
9. Two Cases of Sarcoma of the Dura Mater Arising in the Vicinity of the Mastoid Process, with Vague Symptoms Simulating Mastoiditis. Operation in each case followed by ultimate death. J. F. Barnhill.
10. A Case of Latent Mastoiditis Complicated by Toxic and Irritative Cerebral Symptoms, Accompanied by Blindness and a Streptococcæmia Caused by Trauma—Operation—Recovery. Sam'l Kopetsky.
11. (1) Sinus Operation; Resection of Internal Jugular Vein; Pneumonia. Metastatic Abscesses in the Ankle Joints. Recovery.

(2) Sinus Operation; Ligation of the Internal Jugular Vein; Shock During Operation; Prolonged Convalescence. M. D. Lederman.

12. Further Remarks on the Use of Nitrate of Silver Applied Within the Mouth of the Eustachian Tube for the Relief of Tinnitus. W. C. Braislin.

13. Temporosphenoidal Abscess Secondary to Chronic Suppurative Otitis Media—Operation—Recovery—Radiographic Findings. I. M. Ingersoll.

14. Diffuse Serous Labyrinthitis Complicating Acute Purulent Otitis Media. Ernest Dansiger.

15. A Case of Simultaneous Bilateral Sinus Thrombosis Twelve Hours After the Simple Mastoid Operation. J. Freisner.

16. Cerebellar Abscess. C. E. Perkins.

17. Meningitis Without Definite Symptoms, Occurring Late in Mastoidectomy Convalescence. Geo. E. Steel.

18. Variations of Sphenoid Sinus Disease. Geo. McBean.

DOUGLAS MACFARLAN.

THE LARYNGOSCOPE. August.

1. The Orbital Approach to the Cavernous Sinus. H. P. Mosher.

2. Freezing of the Inferior Turbinate. H. S. Gradle.

3. The Submucous Operation for Correcting Nasal Deformities; Symptoms Indicating Operation; Methods and Difficulties Encountered. N. P. Stauffer.

4. The Observations of Nystagmus Through the Closed Lids. E. P. Fowler.

5. The Operative Treatment of Meningitis. S. I. Kopetsky.

6. The Air we Breathe—A Study of Temperature, Humidity and Dust Content. Thos. Hubbard.

Dr. Mosher's paper presents a very singular operation, rather radical since it necessitates the removal of the eye. The cavernous sinus is reached through the apex of the orbit and the sphenoid fissure. He reports an interesting but fatal case.

Freezing the inferior turbinate is accomplished by a carbon dioxide snow stick. Dr. Gradle has used the method twenty times on neurovascular turbinates with only two recurrences. No scar is made by the "snow."

Dr. Stauffer ably reviews the whole subject of the commonplace submucous operation, and gives some welcome practical suggestions. He

decries the rocking of the ethmoid as dangerous, and uses the punch on this part of the septum.

Dr. Fowler records nystagmus with the lids closed by means of a sphygmograph. His curves show a number of varieties, and the coincident occurrence of bilateral nystagmus in certain cases. The article is too short.

DOUGLAS MACFARLAN.

BUL. D'OTO-RHINO-LARYNGOLOGIE, July.

Hypertrophic Rhinitis as a Symptom of a General Complaint. Dr. Béal.

Dr. Béal appeals for the study of the general neurovascular symptom complex, and a care lest a local condition be merely attended to; a general examination and a careful history, past and present, will often lead to a surprising find and to the cure. The neurotic element is often scarcely perceptible, and at times is discovered in those who give the least suggestion of it. The specialist cannot afford to neglect the general condition. Among the cases of peculiar origin is one due to a prolonged milk diet, which cleared up with attention to the gastric trouble.

To avoid broncho-pulmonary complications after pharyngo-laryngeal surgery, Dr. Casetaux adopts a post-operative régime of antiseptic dressing powders and careful oval sepsis. He prefers preliminary tracheotomy, removing the canula later as soon as possible. Suture the denuded or exposed surface wherever possible to obtain a healed live membrane; tincture of iodine to the parts not coapted; a gauze wick in the mouth for drainage. He insists on a period of a few minutes after opening the trachea to permit the patient to cough up any blood.

DOUGLAS MACFARLAN.

MEDICAL REVIEW OF REVIEWS, Oct.

What the General Practitioner Should Know in the Specialty of the Ear, Nose and Throat. M. Lubman.

NEW YORK STATE JOURNAL OF MEDICINE. October.

Some Manifestations of Influenza in Young Children. L. Emmet Holt.

JOURNAL OF OPHTHALMOLOGY AND OTO-LARYNGOLOGY,
September.

*I. Immature Cataract: Experience with Homer S. Smith's Operation. Frank Walters.

2. Mastoiditis, a Complication and an Entity. Wm. S. Tomlin.

3. Chicago Laryngological and Otological Society. Discussion—Diseases of the Antrum.

4. Congress American Laryngological Association. Primary Lupus of the Larynx; Primary Sarcoma of the Trachea; Anaphylactic Reactions in Horse Asthma, etc.

I. In eighteen months ten cases, preliminary capsulotomy (crucial incision) six to twenty-four hours before extraction; in eight of these cases preliminary iridectomy three weeks to a month beforehand. Results were so "encouraging that we feel disposed to adopt Homer E. Smith's method in all cases, mature and immature." In two cases iridectomy was performed at time of extraction, six to twelve hours after the capsulotomy. The author "discovered that there is time to perform the iridectomy in these cases before the lens starts out of its opened capsule." The author agrees with H. E. Smith that most immature lenses are large. "True, some detached cortical substance generally accompanies or may be made to follow the nucleus; in only one case was irrigation practiced. In several a small quantity of cortical substance was allowed to remain which invariably absorbed within a few weeks, leaving a clear, unobstructed pupil." His visual results ranged from 20/70 to 20/30 with an average of about 20/40.

J. L. M.

**MED. SEKT. DES SCHLES. GESCH. FÜR VÄTERLANDISCHEES
KULTUR. 30 Jan.**

1. Ein Fall von amaurose nach Blepharospasmus. Uhthoff.

Uhthoff reports a case of a child who was unable to open his eyes for six weeks because of a severe eczematous keratitis. After healing the blepharospasm subsided, the cornea showed only a few maculæ, and the fundus was perfectly normal. The pupillary reactions were normal. However, the child manifested the typical conditions of acquired amaurosis, after blepharospasm, associated with Ruckbildung's Erscheinungen. The patient followed objects placed before the eyes

*Archives of Ophthalmology, No. 1, Vol. XLI.

when they were moved from the periphery toward the center of fixation. Patient was able to converge and accommodate to given objects. Blepharospasm was present when the eyes were exposed to too much light. In spite of all the above the patient could not grasp toward any given object but fumbled helplessly around. Uhthoff diagnosed the case as one of *Verlernen des Sehens*.

This condition occurs only in children under 5 years of age. Later in life the optical memory is so well developed and the associated paths so intact that a break is not possible after a period of non-use of the ocular apparatus.

F. O. NAGLE.

SOCIETIES.

TWENTIETH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL,
RHINOLOGICAL AND OTOLOGICAL SOCIETY, ATLANTIC CITY, JUNE
19-20, 1914.

1. Dr. Jackson presented a paper on the use of radium in cancer of the œsophagus, and recommened large doses, ranging from one to three hundred milligrams and over. No case of cure was reported.

2. Dr. Robt. Levy read a paper on papilloma of the larynx, recommending the suspension laryngoscopy method, and reporting cases with good results.

3. Dr. Solier Bryant's paper dealt with meningitis and the treatment of septic meningitis with magnesium sulphate internally.

4. Dr. Kopetsky presented the subject of meningitis from the standpoint of Hayne's method of cysterna magna drainage. Both the operation, *per se*, and its use as a diagnostic measure should accord the method favorable consideration.

5. Dr. Sheppard presented a paper on the blood picture in sinus thrombosis, dwelling on the fact that neither the blood picture nor cultures were conclusively dependable.

Drs. Borton and Friedberg on the management of ear conditions in the infectious fevers.

6. Dr. Lynch on diseases of the larynx, especially referring to stricture and neoplasms, suspension laryngoscopy and instruments of choice in laryngeal work. He reported a case of papilloma of the larynx in which the mucous membrane was sutured over the stump. The result was successful.

7. Dr. Beck presented the pathological histology of changes in the septum and inferior turbinate.

8. Dr. Fowler gave a demonstration of a method of registering the movements of nystagmus. The instrument used is much like a sphygmograph.

9. Dr. Grayson presented a paper on opening into the sphenoid interior to the normal opening, thus avoiding the necessity of removing the posterior end of the middle turbinate. He exhibited a hand trephine devised for the operation.

Other papers:

10. Tuberculosis of the Middle Ear. H. H. Brigg.
11. Contribution to the Study of the Anatomy of the Tympanic Cavity. Ralph Butler.
12. Corrective Rhinoplasty. Lee M. Cohen.
13. The Efficacy of Vaccines in the Treatment of Chronic Diphtheria Carriers. A. I. Weil.

MEETING OF THE SECTION ON OTO-LARYNGOLOGY OF THE A. M. A.,
ATLANTIC CITY, JUNE 23, 1914.

1. Dr. Borden read a paper on Latent Syphilis of the Nose.
2. A symposium was held on ethmoid disease—Drs. Holmes, Shambaugh and Mosher.

Dr. Beebe presented a paper on goitre and its relation to diseases of the nose and throat.

Drs. Beck and Wilson spoke on the subject of focal infection in the nose and throat.

(Reviewed from the Index of Oto-laryngology) June, 1914.

DOUGLAS MACFARLAN.

ABSTRACTS.

Neuritis Retrobulbaris und Allgemeinerkrankungen. Retrobulbar neuritis may be due to lues-diabetes sinus affections, orbital infections, menstrual anomalies, pregnancy, and loss of blood.

Exclusive of the above causes, sinus trouble and multiple sclerosis claim the greater percentage amongst the so-called idiopathic retrobulbar optic neuritis. This was clinically proven by Langenbeck in his clinical material of 176 cases.

Langenbeck emphasizes Uhthoff's symptom as a valuable diagnostic sign, namely, visual disturbance after bodily exercise.—*K. Langenbeck, Archiv. f. Ophth.*, 387, page 226.

Bedeutung der Retrobulbar Neuritis als Frühsymptom der Multiple Sklerosis und ihre Relative Häufigkeit. The importance of retrobulbar optic neuritis as an early symptom of multiple sclerosis was seen by Peppmüller who records a case of bilateral retrobulbar optic neuritis appearing March, 1913, unaccompanied with any other symptoms. In July, 1913, diplopia suddenly appeared, lateral nystagmus, increase of patellar reflex, disappearance of the right abdominal reflex and the Romberg's sign. But the intentional tremor and scanning speech are still absent.—*Peppmüller, Berliner Klin. Woch.*, No. 5, S. 238.

F. O. NAGLE.

BOOK REVIEWS.

MANUAL OF THE DISEASES OF THE EYE. *Eighth edition, revised.* By CHARLES H. MAY, M. D. Cloth. 440 pages. 377 original illustrations, including 22 plates with 71 colored figures. 8x5x1". William Wood & Co. New York. 1914. The price remains \$2.00, net.

As usual, this little multum in parvo stands at the head of the numerous eye manuals. The student and general practitioner obtain a clear conception of the subject, but are not led to perform major operations without studying the larger works. The author is highly commended for teaching the correct use of the terms hemeralopia and nyctalopia. It is to be regretted that his only recognition of *astigmia* is to mention it parenthetically as a synonym. Dr. May wrote, "Nov. 24, 1905, In regard to nyctalopia and hemeralopia I plead 'guilty' and will change the words in the 5th edition. By that time perhaps 'astigmia' will be in general use and then I will have to adopt that also."

To this we reply that perhaps astigmia would have been in general use ere this had our distinguished educator and his confreres had the moral courage (as did the late Dr. C. A. Oliver) always to use this, the scholarly, term—particularly in his book and lectures. Students have the right to be educated in the use of scholarly rather than slovenly terminology. It is sincerely hoped that Dr. May will range himself with Dr. Copeland and Dr. Weeks, who do not once find it necessary to use the word astigmatism in their books.—J. L. Moffat.

The Journal of Ophthalmology, Otology and Laryngology

Vol. XX

Lancaster, Pa., and Philadelphia, November, 1914

No. 11

EDITORIAL.

WHAT CONSTITUTES A SPECIALIST?

FIRST: That physician who possesses a broad knowledge of the subject of general medicine founded upon an experience in the treatment of the sick over a period sufficiently long to have permitted him to witness several cases of each of the more common diseases, to wit: The acute infectious fevers, including pneumonia, diphtheria, scarlet fever, measles, typhoid fever, etc.; general constitutional conditions; diabetes, anemia, chlorosis, leukemia, etc.; nervous affections; progressive paralysis of the insane, tabes dorsalis, isolated and multiple neuritis, herpes zoster, bulbar palsy, hemiplegia, etc.; the neuroses; hysteria, neurasthenia, hypochondria, manias, etc.; tumors, carcinoma, sarcoma, fibroma, myxoma, etc.; furthermore, the diseases of individual organs including the skin, kidneys, heart, lungs, digestive organs, etc.

In addition to witnessing these several conditions he should have had experience in handling and studying them from start to finish, for there is not a single one that may not be expressed in the eye, ear, nose or throat. In fact, the specialist by noting local changes may be the first to detect the presence of certain general diseases. His experience in general medicine should have covered one or more epidemics, if not of the more malignant diseases, at least that of influenza. After this, or preferably a still longer experience, he is fitted to take up the study of a specialty. The most glaring mistakes ever made in practice were by specialists who lacked experience in general medicine.

Secondly: He must possess a working knowledge of the subject of his specialty founded upon an experience in the treatment of a considerable number and variety of the diseases covered by his specialty under the tutelage of capable teachers. He should possess a knowledge of pathology and bacteriology, attained by actual laboratory experience. Lacking this knowledge, when occasion requires, he should

at least know enough to consult with one who has it. No man can attain a working knowledge of the eye, ear, nose and throat in a three or six months' course in the average post-graduate school, and let it be known that the aspirant who hopes to be preparing to become a menace to those unfortunate enough to apply to him for treatment.

Thirdly: After he has been properly prepared for the practice of his specialty he should not rest upon his laurels, but should keep abreast of the times and continue his studies, subscribe to and read the current literature on general medicine as well as on his specialty. It is even better to associate himself with one or more societies devoted to his specialty.

Finally: He must be honest and keep ever in his mind that his work is humanitarian.

The Specialists' Prayer. There is one prayer which every physician should make when he enters upon the practice of a specialty, and that prayer is: May the Unseen Powers keep me from becoming strabismic, keep me from seeing or imagining the special disease of my specialty in every human being. And he should repeat this prayer every morning, on entering upon his day's work.—*Critic and Guide*.

Servian Government Desires Medical Aid. The Servian Government is in immediate need of the service of qualified bacteriologists and physicians experienced in the treatment of epidemic diseases. The terms of service and remuneration will be made by arrangement. Applicants who are interested should submit their offers with reference to the Secretary of the Servian Legation, 195 Queens Gate, London, S. W.—*War Notes*, J. A. M. A., Nov. 21, 1914.

CONSERVATION OF VISION.*

A. B. NORTON, M. D., F. A. C. S.,

New York.

IN preparing a recent editorial upon this subject, the writer became so interested it was selected as a topic for presentation to this society. The trend of the times in all branches of trade and industry, in order to increase the material wealth of the State, is toward the conservation of energy.

In this direction political economists and others have been paying a great deal of attention to the prevention of disease, as of all the forces directed toward the conservation of valuable utilities and the preservation of human efficiency, the saving of human life is the most important.

From the economic point of view the preservation of useful sight is, in the majority of cases, of even more importance than the preservation of life, because blindness is usually associated with normal health and the individual may live for many years with little or no earning capacity and too frequently a dependent upon the efforts of others. In other words, in blindness, the State loses not only the revenue producing value of the individual but in addition is obliged to provide for his maintenance.

STATISTICS AS TO THE NUMBER OF THE BLIND vary greatly because there is no accepted rule as to what constitute blindness. A watchmaker would be practically blind, so far as earning a living at his trade, with a vision that would be ample for a mason.

Schmidt-Rimpler and Magnus consider such individuals blind as can count fingers at a maximum distance of $\frac{1}{3}$ meter only, while Fuchs places the limit at finger counting at 1 meter.

The percentage of the blind to the population varies greatly in different countries. Holland has 44 blind to 100,000 population, while in Iceland the proportion runs to 340 in 100,000 people. Fuchs estimates that there is one blind person to every 1,000 inhabitants in Europe. The United States stands about midway in the list of countries having 97 blind in every 100,000 inhabitants.

*Read before the O., O. and L. Society, at Atlantic City, June, 1914.

It is believed that the census returns generally materially underrate the number of the blind, owing probably to the fact that those who are of defective sight, although able to walk about and to distinguish light from darkness, but practically blind, are disinclined to return themselves as such.

The census of 1910 gives the number of blind people in the United States as 65,000. From subsequent investigations these figures are believed to be altogether too low. The New York Association for the Blind, in its work of revising the census of the blind for the State, says in its last report just published, "the number of cases which the association has investigated altogether or been personally in touch with is beyond 10,000 cases." Henry Copley Greene, field agent for the Massachusetts Commission for the Blind, says in that State only about 53 per cent. of the actual cases had been recorded, and in Delaware only about 48 per cent., and assuming similar conditions in other parts of the country estimates the total number of blind in the United States to be not less than 118,000.

CAUSES OF BLINDNESS.—For years oculists have recognized that nearly 50 per cent. of all cases of blindness are due to conditions which might have been avoided. It is, therefore, of the utmost importance, from the economic point of view as well as the humane, that every possible measure to prevent blindness should be instituted. For the purposes of this paper and for comparison we take the figures of Magnus, who tabulated 2,528 cases of double-sided blindness from reliable German sources. Those of Trousseau of 625 carefully observed cases in France, and the 572 cases reported by Oppenheimer, of New York.

	Congenital Blindness.	Blindness due to Idiopathic Diseases of the Eye	Blindness due to Traumatism	Blindness due to General Diseases.
	Per cent.	Per cent.	Per cent.	Per cent.
Magnus	3.84	67.08	10.76	18.39
Trousseau	3.04	57.12	16.32	23.52
Oppenheimer . . .	3.84	48.08	28.67	19.41

This table shows about the same proportion of congenital blindness in all three countries; that blindness from idiopathic diseases of the eye is less frequent in the United States; that blindness from traumatism is much greater in this country than either Germany or France, while France has the highest percentage of blindness due to general diseases.

The United States census for 1890 shows for each 1,000 blind there were 555 males and 445 females. The proportion among males in this country is above the average, and for females decidedly below the average in the principal countries of the world.

CONGENITAL BLINDNESS we find from the above table furnishes about 4 per cent. of all cases of blindness. In the United States at large the proportion appears to be more than double these figures, as the 1890 census shows 8.46 per cent. of the blind returned as congenitally blind, but probably due to inaccuracy of the returns.

The heredity of certain eye diseases is very marked. For example, congenital cataract has been found in 57 per cent. of children born of parents who had congenital cataract, and 50 per cent. of children of parents with retinitis pigmentosa are born with the same defect.

Syphilis is, of course, the most frequent constitutional disease of parents which predisposes to eye diseases in their children.

BLINDNESS FROM IDIOPATHIC DISEASES of the eye causes 48.08 per cent. of Oppenheimer's cases and 67.08 per cent. of Magnus' cases. Ophthalmia of the new born forms a very large percentage of these cases. Blenorrhœa of adults, trachoma and atrophy of the optic nerve are the other most important causes under this heading.

BLINDNESS DUE TO TRAUMATISM caused 28.67 per cent. of Oppenheimer's cases. In this country nearly three cases of blindness from injuries for every one occurring in Germany. The number of cases of blindness of one eye from injury are, of course, very much greater, and in these there is the ever present danger of total blindness from sympathetic ophthalmia.

THE COST OF BLINDNESS.—In an effort to estimate the approximate cost in dollars of blindness in this country, we commence with the assumption that there are 118,000 blind who, from their affliction, are rendered incapable of earning anything. This assumption is, of course, an error, as some undoubtedly earn a good deal, while many are able to earn a little, but at present we have no statistics at hand to show the earning capacity of the blind. Another source of error in the following figures is that the cost of maintenance is based upon the figures of the Bureau of Labor Statistics of working people living in families, but as many of the blind live in institutions the cost of their maintenance is probably some less.

In 1901 the Bureau of Labor statistics ascertained the actual earnings of 25,440 families of working people in various industries:

domestic and personal service; hand trades, which include bricklayers, carpenters, painters, etc.; the iron and steel industry; lumber and its manufacture; the textile industry; the manufacture of vehicles; trade and transportation. There was a small representation in agriculture, the fisheries, mining and professional occupations. In the 25,440 families there were 24,402 in which there were husbands who were wage earners, and the average earnings of these husbands for one year \$621.12. In 2,173 families there were wives who were wage earners, and they averaged \$128.52.

There were also 9,435 children who worked for wages, some of them also going to school a portion of the year, and the average earnings of these children was \$191.99.

Assuming the 118,000 blind were equally divided among the three above classes of wage earners the average earnings of each of the 118,000 if not blind would be \$313.88, or a total yearly earning capacity of \$37,037,840.00. These figures are, of course, inaccurate, as in the 118,000 many are children under the working age, but this cause of decrease would be offset by the fact that there are more blind males, whose normal earning capacity is greater, than there are females. There would also be some increase over these figures because the Bureau of Labor Statistics has not in these statistics ascertained the earnings of single women and widows which would naturally be larger than wives who presumably were doing their own home work as well.

The average size of the 25,440 families was 4.88 persons and the total membership was 124,108 persons.

The investigations of the Bureau indicate that wage rates have increased in about the same degree as prices have, so it will be approximately correct to increase these earnings in the degree established by the price index numbers of Bradstreet's. This will give for 1913 the following figures: For husbands, \$755.03; wives, \$156.23; children, \$233.38; an average of \$381.55, and a total yearly earning for the 118,000 of \$45,022,900.00.

To determine the total public loss from the economic viewpoint we must add to the above figures the cost of maintenance.

Again, referring to the Bureau of Labor Statistics we find the average cost to maintain 124,108 persons in 25,440 families, about one-half of these being children, in 1901, was \$143.29 yearly, a total of \$16,908,220.00. These figures should also be increased for 1913, ac-

according to Bradstreet's index numbers, to \$174,18 each, or a total for the year of \$20,553,240.00.

This would give on this method of estimating, which is admittedly inaccurate, a grand total of \$65,575,140.00 per year as the cost of blindness in this country.

THE PREVENTION OF BLINDNESS.—In the preparation of this paper liberal reference has been made to the interesting article under this heading in the American Encyclopedia of Ophthalmology by its editor, Dr. Casey A. Wood.

The statistics of a number of observers covering many thousands of blind show that 33.35 per cent. were certainly avoidable, that 38.75 per cent. were possibly avoidable, indicating, as already stated, that nearly 50 per cent. of all cases of blindness are due to conditions which might have been avoided. The question then arises, what preventive measures should be adopted?

As it seems to be proven that congenital blindness in the parent is very apt to be transmitted to the children, "the marriage of those so afflicted, if permitted at all, should never be entered into without the fullest understanding on the part of those contracting such marriages, as well as those responsible for them, of the results which may be expected to follow."

The laws of heredity may be cruel and seemingly unjust but they are immutable. The knowledge of the facts, of the transmissibility of diseases causing blindness should be more widely spread.

The second classification, of blindness due to idiopathic diseases of the eye, according to Oppenheimer's statistics, constitute nearly 50 per cent. of all the blind in this country.

Ophthalmia of the new born furnishing, according to various statistics, from 25 to 30 per cent. of these cases.

It is generally recognized by all oculists that this disease is almost universally preventable by the instillation into the eyes of the child at birth an antiseptic germicidal solution of one of the silver salts, which destroys the infecting germs without harm to the eyes; and in almost every case the disease is curable from intelligent and immediate treatment.

Helen Keller, speaking of ophthalmia neonatorum says: "Physicians should take pains to disseminate knowledge needful for a clear understanding of the causes of blindness. The time for hinting at unpleasant truths is passed. Let us insist that the States put into

practice every known and improved method of prevention, and that physicians and teachers open wide the door of knowledge for the people to enter in."

Blenorrhœa of the adults, trachoma and optic nerve atrophy form a very large share of the remaining cases of blindness from idiopathic diseases, and of these a large proportion should be placed under the same classification of avoidable blindness.

Much good work has already been inaugurated in many States towards the prevention of blindness from these diseases. New York has a special commission appointed by the Legislature to study the condition of the blind and to report upon the preventable causes of blindness. Its department of health has an annual appropriation of \$5,000.00 for the protection of infants from ophthalmia neonatorum. The New York Association for the Prevention of Blindness has done most excellent work in this direction. The American Ophthalmological Society and the American Medical Association have for several years had committees for this purpose.

The third classification of blindness from industrial accidents is one already receiving serious attention from some of the large manufacturing corporations. In *The Literary Digest* for February 14, 1914, we find an article headed "Safety in Steel," from which we quote, "Accident-prevention work has been undertaken by the United States Steel Corporation on a large scale." "Since 1906, when the corporation actively took up the work, approximately \$5,000,000.00 has been spent on safety work, and it is felt that, to a large extent, those accidents for which the employer is responsible have been eliminated." The fact that one corporation finds it pays to spend five million dollars in seven years for this work indicates its immense importance. From German statistics it has been found that 59 per cent. of accidents are due to the negligence of employers or employés, and are, therefore, absolutely preventable. It would seem from American statistics, which, however, are very incomplete, that 15 per cent. of all injuries are those affecting the eyes.

Helpful work in the prevention of blindness from industrial accidents will be slow owing to the difficulty in securing the necessary co-operation of the workmen in preventive measures. A campaign of education adapted to each trade showing the percentage of the injured in their work, the results to them and their families, with a simple explanation of the methods of prevention, and finally, the

securing of suitable laws requiring the use of such methods, would in the end greatly lower the percentage of preventable accidents.

"A vast deal of effort has been wasted in trying to persuade both employers and workmen to exercise ordinary caution. But a new factor has been injected into the problem which bids fair to accomplish great results. Under the new 'Workmen's Compensation and Compulsory Insurance' laws of New York State the employer cannot afford to have accidents happen, because he has to pay for them, while the workman cannot afford to neglect precautions because if he does he loses his insurance rights. Under these laws the employers in their own interest must not only provide but insist on the use of all possible safety devices, and we may confidently expect a great reduction in trade accidents and disease."

It would seem to the writer that this subject is of sufficient national importance, from the economic point of view alone, to be taken up under some government department, or a national commission, to organize, consolidate and harmonize under one body the efforts of all States, societies and individuals in this great work for the common weal.

DISCUSSION.

DR. GEORGE A. SHEPARD: The subject of this paper is one of interest to us all, and the statistics are indeed appalling. We should awaken to a sense of our responsibility, not only to treat properly the individuals who present themselves to us, but also to the need of greater education of the masses as to the need of preventive measures. Familiarity breeds contempt, and it is futile to talk to the laborer, because he feels that any means which he may take for safety will be looked upon by his fellows as a sign of timidity and by his employer as a sign of efficiency. If oculists should start a nation-wide propaganda among their patients to bring employers to a realization of the enormous waste due to preventable eye accidents, would not more be accomplished in one year than by a decade of magazine articles? If every member here will take it upon himself to explain to patients, who are employers of labor, the means by which accidents can be lessened in his particular business, this meeting of 1914 will have paid its way.

In looking over my records of injuries to the eyeball I find the revolver, rifle and air gun, small caliber, in the hands of young boys, the cause of a large minority of the accidents. Parents should be advised of the danger in allowing their children to have such playthings. Since the New York laws have stopped the sale and use of Fourth of July explosives, our hospitals do not have one-tenth of the accident

cases of former times. Go back to your homes and urge the City Fathers to do likewise.

DR. F. D. LEWIS: The subject on which Dr. Norton has given us his talk to-day is one to which we could devote hours without exhausting it. The statistics are of the greatest interest, and he has shown great care and given considerable time in the compilation of them.

However, the important thing for us to take under consideration is how shall we prevent these various causes of blindness from repeating their disastrous results in the years to come. First, we all know, and have undoubtedly had repeated instances of it brought to our offices, of congenital blindness. These cases are beyond our help to relieve, but what is our duty towards future generations?

Education, sex education, eugenics or what you will, but education. There has been much written, both in medical literature, magazine articles, and for presentation on the stage in the form of plays, on the subject. Workers along these lines either advocate that the parents or the teachers in schools should impart this knowledge to the child.

At a play that I recently attended a young woman placed herself in a compromising position through ignorance of sex knowledge. The lesson of the play was shown when the climax was reached, and she blamed her parents for this lack of knowledge, and they each other, that she had not received it.

Was it, indeed, the duty of the parents to impart this knowledge to the child? Is it the duty of the teacher at school to give this information to the pupils? I say no. I believe that it is the duty of us and other specialists, who see the results of the ignorance of such parents in contracting marriage and transmitting to children an inheritance which will afflict their whole lives, to start a campaign of education, not to our patients, but to the physicians who are engaged in general practice, and impress on them that they are not fully performing their duty in allowing their children patients to grow to manhood and womanhood ignorant of the possible results that may follow such lack of knowledge. A case under my care for some years has vision in right eye of 5/200, left eye 10/100. Parents, first cousins. The parents should have been informed by their family physician before entering into matrimony of the possible results to offspring.

We have all seen results to the eyes of children of one parent being syphilitic, and we know the dreadful results of a gonorrhœal infection in the eye. Let parents attempt to warn children of the fearful results that may follow immoral habits or neglect of hygienic measures, and it is taken as over-care by the child; and, besides, it is extremely difficult for parents to introduce such subjects.

Let the teacher at school try and it may simply suggest to the child thoughts that may lead, through aroused curiosity, to disaster. But the family doctor, to whom the child has been accustomed to go with various troubles, and to whom is given attention and confidence, can and is the one to give such instruction.

Let us start, then, on such a campaign and educate the general practitioner in this his greatest duty. For is not the tendency to medicine to-day towards prevention rather than cure? Another advantage that I would like to suggest in this connection is that the child receiving such talks from the one to whom it looks for help when sick, would take them as a matter of personal interest and consider them seriously, whereas the same instruction before a class would be given little attention or, discussed by the children afterward, might lead to immorality rather than prevent it.

One other point only I wish to talk about in connection with the conservation of vision and that is the matter of refraction. We oculists have quietly kept to our own work while the opticians have organized, formed local, state and national societies; used their influence to have laws passed recognizing them as refractionists and granting them a legal right to fit glasses to the eyes.

Is refraction a simple mechanical procedure? How many amblyopic eyes might have been saved to usefulness had proper correcting glasses been worn early enough? What proportion of refracting opticians are qualified to refract, and of this number how many could recognize a case needing treatment or operation? These questions you all can answer for yourselves, but what is the remedy?

Again education of the family physician in the necessity of having children's eyes refracted by an oculist who is qualified to do this work as soon as they begin their serious school work. Most parents have already learned the necessity of having their children's teeth examined at a stated period, and the eyes surely are as important as the teeth.

If the eyes were given anywhere near the attention the teeth receive there is not the slightest doubt that the result would be conservation of vision for future generations. I have not here touched on mechanical devices to protect eyes in factories, the individual towel to replace the dangerous roller towel, the care of the eyes of the new born, and many other points, but as I said to start with, hours might be profitably devoted to this subject.

R. S. COPELAND: I have been much interested in Dr. Norton's paper; it is of such general interest and public importance that I think some effort should be made to disseminate among the laity the statistics and information that he has here collected. We are living in a remarkable age, and while it is claimed by some that enlightened self-interest is at the bottom of the movement, yet it matters not whether the progress is made from selfishness or from better motives. The attention paid to the lower classes is a fact that we may congratulate ourselves upon. Such laws as the workman's compensation act and the various safety devices that are in use in the large factories show that much attention is being paid to that department of economics.

I attended recently a conference of fifteen physicians representing

various large corporations, the largest employers of labor in the eastern section of the country, called together purely for the purpose to find ways and means of preventing accidents in the various plants represented. The conference considered how best to help the workers who would not help themselves.

I was interested in the eastern plant of the General Electric Company, in the intelligence of the superintendents and in the large number of safety appliances which had been installed to protect the men. They were easily picked out because all such were striped with red. Every turning lathe where they turned metals had a square of plate glass in front of it so thick and so well bound that it was itself not liable to be broken, and serving as a perfect protection to the eyes of the men.

It was so arranged that the employé who used the lathe was compelled to look through this glass; it received all particles of steel that flew off and used to destroy so many eyes. That was only one of the large number of different devices used there.

You will recall that two or three years ago I presented a paper on the desirability of using wire glass in elevators, automobiles and public conveyances as a protection to the eyes in case of accidents. Since then, while in a large hospital in New York, I was impressed by the large number of accidents due to glass. Whenever an accident on a public carrier occurs the large majority of the injuries is due to glass broken at the same time. I feel more strongly now than I did when I wrote the paper referred to that it is part of the duty of the State, under its police power, to demand that wire glass, or the more modern plan of a layer of celluloid between two plates of glass so that when broken it does not fly, should be put in use in all public carriers, elevators and the like. The paper of Dr. Norton is timely, and I hope that some means of disseminating it may be devised.

I. O. DENMAN: In Ohio we have a workman's compensation act and also we have a state commission on blindness with a field secretary traveling all the time, co-operating with physicians and hospitals, and teaching the people how to care for the eyes and prevent blindness. In Toledo we have nurses who devote all their time to ophthalmic work; all suspicious cases of eye trouble among the poorer classes are referred to her and she visits them and sees that they are properly taken care of. In every 5,000 blind people probably 2,000 of them could have been saved from that fate.

J. A. CAMPBELL: It is often the folly and obstinacy of the workmen that is responsible for the loss of sight and other accidents. When safety devices are offered it is difficult to get them to put on the glasses or whatever it is to protect themselves.

A. E. CROSS: Dr. Campbell is right about the unwillingness of a large per cent. of workmen to co-operate with their employers in doing what their safety requires. In the large factories in Worcester

where workmen are continually getting foreign bodies in their eyes, especially emery, it has been the practice for some workman, who is considered especially skillful, to remove the particles with the point of a knife, toothpick or other unclean instrument. While in many cases the only damage has been the denuding of large areas of corneal epithelium, I have had several serious cases of serpiginous ulcers as a result of infection.

When the danger from this practice became known, some of our largest manufacturers prohibited the removal of foreign bodies by employes, giving strict orders that these cases should be referred immediately to the ophthalmologist.

If this danger from infection was known by large employers of labor they would recognize that it is economy for them to have such cases properly attended to by specialists, and thus save eyes as well as damage suits.

F. G. RITCHIE: While in a drug store I saw the proprietor removing a foreign body from the eye of a customer; his method of proceeding was to evert the lid and then to brush it with a camel's hair pencil, rubbing it in hard. Of course, there was no precaution taken to have the brush or the fingers of the druggist sterile. We frequently meet with the results of meddlesome friends or druggists tampering with the eyes, and it sometimes is quite serious.

J. IVIMEY DOWLING: I have the written discussion of Dr. Lewis which I looked over. He advises the education of the family physician and of the optometrist. I was reading in the official journal of the optometrists and was astonished at their audacity. Their journal is well worth the dollar it costs in order to get inside information of what they are doing and their plans for the future. Their whole attitude towards oculists is one of superiority. They are licensed in thirty-three States. They wish to claim the whole merit for themselves and easily to beat the oculist at his own game. We have all had the experience of finding badly neglected and sometimes irreparably ruined eyes from some disease which they had not seen but had tried to correct the vision, the defects of which were due to an inflammation of the deeper structures of the eye. I have seen cases wearing a plus diopter lens when what was needed was drainage of the sphenoid sinus. They cannot be taught anything and they cannot be controlled. I had an experience with air guns that shows how dangerous they are. A man working on the roof of a house was just about to quit when suddenly he felt a sting in his eye. I found a shot lodged in the ciliary process, and instead of being the slight injury he thought, it was serious enough to deprive him of the sight in one eye. Hence the air gun on the streets of Albany should be controlled as one means of the conservation of the eyes.

A. B. NORTON: In reply to the statement that the general practitioner and the optometrist need to be educated, I think that sometimes

we need to educate our own specialists. I have recently seen two cases of glaucoma simplex under the charge of an eminent oculist diagnosed as cataract. He made a preliminary iridectomy in one case. Both correctly diagnosed too late to save the sight. Let us look to ourselves before finding fault with the general practitioner.

J. A. CAMPBELL: That must have been very exceptional.

A. B. NORTON: Not entirely so; I have seen many such cases before. The best way to attract the attention of the public to this most important matter is to figure it out in dollars and cents; that is the only way that will appeal to the public; let them understand that the care of the blind costs them \$65,000,000 annually, and that a large share of that loss could be prevented if the people were not allowed to go blind from preventable causes, and they will take notice. It is hard to get such figures; I had nothing to go by, and what I have given I had to figure out myself. After I had my paper written I submitted it to a Washington statistician, and asked if he thought that I had made a reasonable deduction. He said that it was fair and reasonable.

My idea is to accomplish anything we must get this way of showing it before the people by appealing to their pocket. We cannot accomplish much good by trying to educate the physicians and the optometrists; we have been doing that for years and it is very slow. The best way of accomplishing results is for all the societies doing this kind of work to get together and get laws formulated and passed that will make it impossible for a workingman to get work liable to cause injuries to the eyes, unless he wears protective glasses. Some are working along that line now. The American Ophthalmological Society and the New York Society for the Prevention of Blindness have started the work, and it is the only way that real good can be accomplished.

A CASE OF HYPOPHYSIS TUMOR.*

FRANK O. NAGLE, A. M., M. D.,

Philadelphia, Pa.

IT is well to understand that diseases of the hypophysis to this day, for many surgeons and internists, are a "noli me tangere," inasmuch as many hypophysis tumors remain stationary for years except for intermitting relapses. I well remember the conservative attitude of my German teacher in ophthalmology, Uhthoff, of the University Eye Clinic at Breslau, when I visited his clinic in October, 1910, and spoke to him concerning the hypophyseal surgery being done at Vienna by Von Eiselsberg and Hirsch during the winter of 1909 and 1910.

At the medical meeting at Scranton, September 23d to the 26th, 1912, Dr. Wm. Campbell Posey, in discussing Dr. Frazier's method of operation upon the hypophysis, openly declares a lack of full confidence in operative procedures. In November, 1913, at a meeting of the Vereinigung der Wurtembergischen "Ärzte," Krailsheimer presented an undoubted case of hypophysis tumor before that society. The patient was an Italian, 38 years old, Vis., O. D. 5/11, O. S. 5/24. Patient was suffering with acromegaly, optic atrophy and bi-temporal hemianopsia. In the discussion as to the advisability of operation, Prof. Fleisher considered the prognosis for vision poor according to the experience of the Tübingen eye clinic, and reported three unsuccessful cases. According to him our operative procedures should be the final resort of therapeutic measures. I have given this circum-spection of the literature to show the responsibility of the ophthalmologist in advising operative procedure for this class of patients. Therefore, the report of a recent case of hypophysis tumor successfully operated by Prof. Cushing, of Harvard, and a brief review of the diagnosis, treatment and various operative procedures, may be of particular interest to us, the specialists, in bringing out a hearty discussion as to what should be done. In the latter years much progress has been made in the diagnosis of hypophysis tumors through the

*Read before the Amer. Institute of Homœopathy, at Atlantic City, June, 1914.

knowledge of the dependence of different clinical disturbances, through animal experimentation, and through the results of the x-ray and surgical interference. At the same time there are many difficulties in solving the question of the relationship of acromegaly and dystrophia adiposa genitalis with affections of the hypophysis and hypophyseal regions. With all these patients visual disturbances appear relatively early; other symptoms, such as headaches and atrophic changes, appear later or they may be of no significance, hence the diagnosis of an hypophyseal tumor, as is well known, is often made by the ophthalmologist.

Diseases of the hypophysis and of the infundibulum, as well as those affections which secondarily affect the hypophysis, occur with acromegaly or dystrophia adiposa genitalis. However, there are many known cases of hypophysis tumors which present no general constitutional symptoms, aside from those of cerebral localization. The symptom complex of acromegaly was first described in 1886 by Pierre Marie, and he attributed as the cause a tumor of the hypophysis or its locality; this same theory still holds good, and there are very few cases reported where at post-mortem other diseased parts of the brain were found.

The first description of the symptom complex of dystrophia adiposa genitalis originated with Fröhlich in 1901. He described the patient as one who presented as symptoms of hypophysis tumor, rapidly developing adiposity and genital disturbances. The *typus Fröhlich* was later described by numerous writers with the additional symptoms of adiposity of the rump and abdomen, often associated with trophic disturbances of the hair and a hypoplasia of the genitals. Adiposity and general hypoplasia, therefore, seem to be the characteristic manifestations of the so-called Fröhlich syndrome, otherwise called dystrophia adiposa genitalis, or as the French call it since Launious and Cleret, *syndrome hypophysaire adiposa genital*.

In consideration of the pathological, anatomical and experimental work, with the results of surgical treatment, the theory has been promoted that acromegaly is due to the hyper-function of the hypophysis. The occurrence of a part of the symptoms is explained by the internal secretion of the hypophysis; the occurrence of other symptoms (oft occurring genital disturbance and glycosuria) by the local action of the tumor on the surrounding brain tissue (Benda, Bidet, von Frankl-Hochwart). For the occurrence of dystrophia adiposa

genitalis, at least in the not fully developed individual, a hypopituitarismus is made responsible. In the first place, animal experimentation speaks for this theory (Bidel, Aschner). The trophic changes are supposed to be due to pressure on some silent area, according to Erdheim and Bartels. Pick published thirty-four cases of hypophysis tumors of the typus Fröhlich which he autopsied. In twenty-three cases the "Neubildung" was in the hypophysis itself; in eleven cases the hypophysis was not the seat of the tumor. All "Neubildungs," according to Erdheim and Pick, have one thing in common, viz., the tendency to grow toward the floor of the third ventricle and to compress the cranial basis. The picture of distrophia adiposa genitalis is observed occasionally on new growth-formation on other parts of the brain, such as the cerebellum and corpus quadrigemina. Marburg (Archives of Neurological Institute, Wien, 1908, 17th chapter, page 217) associated adiposity with tumors of the pineal gland, but a critical analysis of all cases reported shows that in no other condition of the brain is the syndrome in question found more complete and more frequently than in connection with tumors or other affections of the pituitary body or else in the nearest vicinity of the organ, so that pressure or other interference with its function is produced. Gordon reports a case of an angio-sarcoma of the entire hypophysis extending as far back as the foramen magnum and forward to the sphenoidal fissure. The patient was extremely poor, and was compelled to live on charitable contributions. At times he was actually without food for an entire day as charity was not forthcoming. In spite of these privations the adiposity kept on increasing so that six months before his death he weighed 235 pounds.

Of the physiology of the hypophysis there is little known. It is indispensable to life; complete removal of the gland leads, in the course of a few days, to a peculiar train of symptoms, with tremors, fibrillary twitchings, arching of the back, insensitiveness, slow pulse and respiration, a terminal, abrupt fall in body temperature and apathy passing into coma and death. Narbout has shown that it has a definite function in life, especially during the progress of growth. When it is damaged the result is psychic depression, changes in the motor and sensory apparatus. When the hypophysis is removed the eliminated phosphorus and nitrogen is increased. A great loss of weight ensues, especially to the nitrogen-containing tissues. The ancient view that the gland elaborated a secretion for the lubrication of nasal cavities

was superseded in the past century, under the influence of embryology and the doctrine of evolution, for the still more erroneous conception that it was merely a vestigial relic.

Removal of the posterior lobe alone leads to no definite recognizable symptoms. Cushing, however, says: "Normal posterior lobe activity is essential to effective carbohydrate metabolism. An intravenous injection of posterior lobe extract produces glycogenesis, and its continued administration in excessive amount leads to emaciation. A diminution of posterior lobe secretion occurring in certain conditions of hypopituitarism leads to an acquired high tolerance for sugar with the resultant accumulation of fat." For further details I refer you to the chapter on physiology in Cushing's recent book. H. E. Castle and R. A. L. Pykkogul in the experimental surgery of the hypophysis (*California State Journal of Medicine*) believe it is essential to life, but have not proven what part of the gland is capable of the maintenance of life indefinitely without producing symptoms.

I fully believe that most ophthalmologists are interested in diseases of the hypophysis, and are fully conversant with the classical symptoms. For a complete variation of symptoms I will refer to the master article by Uhthoff, of Breslau, entitled "Augensymptome bei den Hypophysis affektionen und der Akromegalie," "Handbuch der Augenheilkunde (Graefe, Saemisch) 2 Auflage, 2 teil, 2 band 1911." The various ocular symptoms are collected from all the cases in the literature and classified.

The object of this paper is to present a case which was operated March, 1913, and to show the gradual improvement with permanent result as far as vision is concerned. Again, since we are all interested now in the early diagnosis of hypophysis tumors, we must not depend upon a bi-temporal hemianopsia as the symptoms leading to the chiasm. This statement can be corroborated by the visual fields I present to you from two cases of hypophysis tumors.

To repeat then, let us remember that a temporal hemianopsia as commonly recognized is merely a stage in the progress of the visual field defect associated with a growth originating near the chiasm, except when produced by a retro-chiasmal lesion which affects both temporal rather than homonymous fields (these later fields reported by Uhthoff). It is comparatively unusual to see patients in the stage of bi-temporal hemianopsia with the vertical meridian separating the blind from the seen. It is important, therefore, that the preliminary

stages in the process of hemianopsia be recognized. Several types of visual fields may precede the bi-temporal hemianopsia. Among these types are bi-nasal hemianopsia, insular hemianopsia, and, finally, concentric narrowing of the visual field. In conjunction with Drs. Lawrence Hicks and Charles Fox I have followed a case of hypophysis tumor associated with acromegaly where it took over three years for the typical bi-temporal hemianopsia to assert itself.

Bartels gives temporal hemianopsia in 46 per cent. of his cases. Uhthoff gives it in 38 per cent.. Cushing regards the visual field limitations which eventually produce the temporal hemianopsia as a fairly definite evolution. He says the primary effect usually involves the color boundaries above in the one upper temporal quadrant. This is followed by a more or less complete hemiachromatopsia, possibly with a slant in the upper temporal quadrant, which gradually spreads downward until most of the temporal field is involved. In all cases the color fields are involved first. The fields for white are involved later. The macula area is often spared for a long time, but finally it becomes implicated in turn, first in its temporal half, finally the whole central area enters the blind field, and the nasal field in turn progressively shrinks away from the center. It is to be emphasized that rarely are the two eyes affected in equal degree, and that after operation restorations occur in the reversed order. De Schweinitz and Holloway present the following classifications of scotoma:

1. Small and para-central scotomas.
2. A quadrant scotoma, up and out.
3. Scotomas varying in size and position.
4. Bi-temporal hemianopsia.
5. Scotomas in the central field at some distance from the fixation point.
6. Blurred vision unexplained by any ophthalmoscopic lesion.

Bartels has pointed out that the so-called typical hemianopsia occurs in only one-third of the cases of tumors of the hypophyseal regions where the diagnosis has been confirmed by autopsy. Klein maintains that perimetric examinations should be made a daily routine. He claims that in one patient a classical hemianopsia may be present at one time, but if daily examinations are made it will be often found that it has given place to an ordinary concentric contraction. In the *Klinische Monatsblätter für Augenheilkunde*, August, 1911, Uhthoff has demonstrated and insisted that large paracentral absolute

scotomas in the outer halves of the visual fields are a conspicuous, and, according to his observations, a frequently observed phenomenon in connection with hypophysis tumors.

Horsley, 1906, was the first surgeon to operate on the hypophysis. On the Continent Schloffer was the first to operate, in 1907. When we consider that in a relatively short period of seven years more than a dozen operations have been advanced and hardly more than a hundred cases been operated, all this shows the technical difficulties to be overcome. On the major surgical methods we have the intra-cranial and extra-cranial routes.

The intra-cranial method tried to reach sella turcica through the middle or frontal fossa (Horsley; Krause; Killian; Frazier). This method has given place to the extra-cranial method, so-called nasal methods (Schloffer; von Eiselsberg; Kocher). This method gave better results but the mortality was always high enough and few ophthalmologists would take the responsibility to advise such an operation because of the uncertain results. The greatest danger in all these operations is the complication of post-operative meningitis. (Most operatives now use urotropin, 1 grain t. i. d, for several days previous to the operation as a routine.)

The rhinologists made more sweeping progress. It was in the fall of 1909 that Hirsch, of Vienna, performed his ethmoidal septal operation with cocain anæsthesia. By this method the mortality of hypophysial operations was reduced from 36 per cent., according to the surgical methods, to 14 per cent. or 15 per cent. by the rhinologists. I will abstract Hirsch's monograph from the "*Archiv für Laryngologie und Rhinologie*" Band 26, Heft 3, 1912, entitled "*Die Operative Behandlung von Hypophysis Tumoren nach endonasal Methoden.*" This "*Arbeit*" is of special ophthalmological interest because Hirsch records twenty-six cases of hypophysis tumor operated upon within the last two years. In all cases he employed the septal method, which consists of the sub-mucous resection of Killian and opening up of the ethmoidal and sinuses. The advantages over the Schloffer method are, first, that the operation can be performed under local anæsthesia at different sittings. Only in very small nasal passages must a resection of the middle turbinate be performed. Of the twenty-six cases operated, twenty-three had splendid results. Death occurred in three cases, and of these only one was directly caused by the operation, as a result of hæmorrhage into the third ventricle from the tumor mass.

One of the deaths was caused by pneumonia eight days after the operation. The third death was due to septic meningitis.

The second advantage of the Hirsch operation is a lowered mortality rate, 11.5 per cent. as opposed to 37.8 per cent. of Schloffer in forty-five cases operated. Out of twenty-three cases Hirsch's operation was successful in preventing further destruction of vision, causing trophic changes to disappear, and enlarged parts of acromegalic patients to disappear. There were three cases in which the operation had no favorable influence. This was due to the tumor growing toward the cranial base. The permanent favorable cases are the strict sella tumors; these tumors, however, give rise to symptoms of acromegaly more than to visual disturbances. The unfavorable cases are those tumors which grow toward the cranial base and where the sella turcica appears on the radiograph as a flattened excavation. Cystic tumors usually developing from adenomas afford the best prognosis; unconditional indication for operative interference, according to Hirsch, is loss of vision; for the present, acromegaly without visual disturbance is not a sufficient indication.

In November, 1913, Kahler reported the results of operative cases from the literature to the Freiburger Aertze Verein.

1. (a) Intra-cranial method—frontal, 4 cases (1 successful); temporal—10 cases (2 successful).
 (b) Extra-cranial—1 major surgical, technic Schloffer—Kocher—Von Eiselsberg—Ollier—Proust—60 cases (16 cases of death).
2. Rhino laryngologische Technic.
 (a) Endo-nasal (Hirsch method) 37 operative cases (27 successful, 7 deaths, 3 without result).
 (b) Sub-lateral (Cushing) 29 operative cases (25 successful, 4 without result).
 (c) Palatinale (Preysing) 6 cases (2 successful, 4 deaths).
 (d) Para-nasal orbital Chiari—Kahler 7 cases, no bad results.

CLINICAL CASE.—Dr. R. S., age 21, Atlantic City, August, 1911.

Patient complains of blur over the right eye which has been present for at least two years. This symptom was first noticed when the patient was studying with the microscope during his junior year at Hahnemann College. Patient says he was unable to distinguish the eosin and hæmatoxylin stains in the upper outer quadrant of the right eye.

Patient was treated medicinally and the case was reported several times by various specialists of known repute.

Vision, August, 1911:

R., 15/76.

L., 15/15.

Pupils normal size and reaction.

R. E. ophthalmoscopic examination revealed the right optic disc in an advanced stage of primary optic atrophy.

Perimetric examination revealed a bitemporal hemianopsia for all colors in the right eye.

L. E. concentric contraction of the visual field on the temporal side.

Left optic nerve: Suspicious pallor on the temporal side of disc was noted.

X-ray examination negative.

Examination of the sinuses was reported negative by Dr. F. W. Smith.

From a neurological standpoint the patient's symptoms were negative. The only symptom pointing to corroborate my diagnosis of a tumor situated in the hypophyseal region was the fact that the patient had recently taken on a rapid increase in weight.

Before accepting my diagnosis with its resulting serious prognosis it was thought wise by one of the consultants to treat the case as one of toxæmia for a time, watching the visual fields carefully in the meanwhile. This course seemed justifiable as, from the study of the literature, I found several cases of hemianopsia on record following severe attacks of influenza several years previous.

A careful study of the urea excretion was made and the patient given phos., 2x t. i. d., with increasing doses. This treatment continued for one year. The vision in the R. E. was reduced to faint light perception. The L. E. still maintained normal vision but the visual fields for red and green were now markedly hemianopic, while the visual field for white would oscillate, at times being more contracted than others.

The second line of treatment was with pituitary extract and thyroid extract. This treatment was continued for one year; patient's condition was about the same. During the months of December, 1912, and January, 1913, there was a rapid loss of vision with corresponding visual field defects.

Vision in R. E. loss of light perception.

L. E. varying from 15/70 to 15/40.

At this time the x-ray showed an enlargement of the sella turcica. This corroborated the diagnosis made the year previous. Before resorting to operative procedure I consulted Dr. Charles Le Fever, who recommended an active mercurial treatment with KI. Patient was given inunctions of 2-4 drachms of blue ointment daily, and potassium iodid. to 200 gtt. per day. Even salvarsan was given. This latter treatment was interesting, as at that time salvarsan was supposed to be contra-indicated in optic atrophy (a contention which we proved at Hahnemann to be false). A temporary improvement followed in the visual fields, but with the R. E. entirely amaurotic and L. E. having but 20/100 vision it was decided to operate the patient.

Dr. Harvey Cushing performed the operation March 5, 1913. Within three days the visual fields returned to normal. Visual acuity increased to 15/30 and later to 15/20. A large paracental scotoma existed for two to three months after the operation. It was quite interesting to watch this gradually disappear. However, the maculopapillar bundle of fibers was damaged somewhat and the patient has still some difficulty in near vision, *i. e.*, reading.

The patient has been under observation for over one year, the condition remaining generally the same, at times the visual acuity varying 15/30 to 15/50; nevertheless, there is a splendid permanent result, and in the future with a diagnosis of hypophysis tumor I would unhesitatingly advise the early consideration for operative procedures.

ATROPIN IN OPHTHALMOLOGY.

HENRY L. GOWENS, JR., M. D.,

Philadelphia, Pa.

ATROPIN has been known since 1828,¹ when it was discovered by several investigators working independently and without knowledge of each other's work.

Atropin (non-volatile alkaloid, U. S. P. Br.²) occurs in belladonna and stramonium. It crystallizes in prisms, or stellated tufts, white and fusible. It has a bitter taste and dilates the pupil either when free or as salts. It is odorless. It is distinctly alkaline, and neutralizes acids forming crystalline salts. The least quantity of atropin which will affect the pupil is variously stated at from one two-thousandth to one seven-hundredth-thousandth of a grain, the latter amount being given by Donders.

Apparently every action of the drug in its use in the eye has been recorded by more than fifty different writers.

Darier³ and Deutschman⁴ state most clearly the indications for its use.

Fifteen⁵ cases of poisoning from the use of atropin in the eye are on record. The ages of those affected range from 3 to 66 years. No deaths are reported, but the time for recovery has ranged from three hours to three days, and this not in proportion to the amount of the drug given. However, the doses ranged from four drops of a 2 per cent. solution to $\frac{2}{5}$ of a grain.

Sixteen grains⁶ to the ounce is the strongest solution on record recommended. Prior to 1873⁷ the standard 4 gr.— $\bar{3}$ i solution was not known.

A solution of the drug, $\frac{1}{20}$ ⁸ of a grain to an ounce of distilled water, when used in the eyes is said to cause complete mydriasis, the effect being over completely in three days instead of the usual fourteen days when full strength is used.

The decline⁹ of atropin for refractive purposes began in 1904-5; this was because of its toxic properties, its inconvenience, and the advent of other drugs just as good, notably homatropin. Neurasthenics, however, are said to be relieved of ocular symptoms after a two weeks' rest under atropin.

Where¹⁰ preliminary fundus examination shows that the condition may be due to diabetes, the urine should be examined before atropin is used for dilatation because atropin will cause the presence of sugar in the urine.

Darier¹¹ states that atropin has been known since 1833. In explaining its action he states that when dropped into the conjunctival sac atropin penetrates the coats of the eye as far as the aqueous humor where it is imbibed by the iris, which it paralyzes, first, the sphincter and then the ciliary muscle, thereby suppressing the function of accommodation; that it also stimulates the dilatator of the pupil, and that for home use $\frac{1}{2}$ per cent. t. i. d. should always be tried before increasing the strength. He contra-indicates atropin in "seclusion pupillæ," but recommends it in alternation with eserine in isolated posterior synechia, for rupturing of the same after the inflammatory period has passed. Adrenalin increases the mydriatic and the toxic effect of atropin. Previous to the extraction or aspiration of cataract in children, atropin should be used for the dilatation of the pupil; the same drug may be used in an ointment in the conjunctival sac before the dressings are applied and every time the eye is dressed, unless glaucomatous hypertension intervenes. It is indicated in fascicular keratitis accompanied by central ulcer of the cornea; in lepromata when ulceration follows; in episcleritis where there are complications in the iris and ciliary body; in the eye 48 hours (the first redressing of the case) after a senile cataract extraction, and in extractions followed by infection; also in infective traumatism of the eyeball and in infective wounds accompanied by iritis. It is never indicated in iritis, iridocyclitis or iridochorioiditis until the binocular loupe, the ophthalmoscope and palpation assures one that the intra-ocular tension is not raised. Even the application of atropin, commonplace though it may be, requires a certain experience, for in many cases of glaucoma mistaken for iritis there has been loss of the eye by the untimely use of atropin. On the other hand, many synechia have resulted from insufficient mydriasis. It must be used when there is much pain in iritis, and the smaller the pupil the more it is indicated. When it is necessary to keep the pupil widely dilated for a long time, as in iritis or deep keratitis, or when adhesions between iris and the anterior capsule of the lens must be prevented at all hazard, or when accommodation must be placed at rest, instillations of atropin, repeated twice or three times a day, must always be prescribed. It is a

remedy at once the most trustworthy and easiest to manage. It is indicated in keratitis when iritis is threatened.

During the acute period of interstitial keratitis which lasts several months atropin should be constantly used. In moderate detachments of the retina atropin is indicated, also in the attempt to save the good eye in sympathetic ophthalmia and in tuberculous iritis.

One writer¹² states that where there is no glaucoma he has used atropin for refraction in patients even between 45 and 70, because he believes that no refractive work can be done without a mydriatic.

Reactions¹³ simulating erysipelas have been reported. Such an occurrence may be seen at any time, states the writer. Also follicular conjunctivitis¹⁴ is reported by another writer as occurring from a non-tolerance to the drug.

¹Percy, S. R.

²Potter, S. O. L., *Mat. Med. Phar. Thera.*, 12th Edit., 1908.

³Pyle, *System of Ophthalmic Practice*, Thera. Darier.

⁴Deutschman, *Med. Woche*, Halle a. s., 1906, vii, 47-62.

⁵Von Colditz, G. T., *J. Ophth. and Oto-Laryngol.*, Chicago, 1908, ii, 182. Amory, R., Boston, 1869. Ives, E. Edith, *Am. Med. Phil.*, 1903, p. 528. Rodger, W. G. *Glasgow M. J.*, 1903, lx, 102-105. Cart-right, N. *York M. J.*, etc., 1903, lxxviii, 467. Elsner, H. H., *Ztschr. f. Augenh.*, Berl., 1909, xxii, 387-507. Spurgin, P. B. *Lancet*, Lond., 1905, ii, 964. Wise, C. H., *Brit. M. J.*, Lond., 1904, i, 189—.

⁶Jameson, P. C., *Brooklyn M. J.*, 190—, xvii, 17-20.

⁷Liebreich, R.

⁸Norris, W. F.

⁹Ryerson, G. S., *Canada Lancet*, Toronto, 1904-5, xxxviii, 411.

¹⁰*Deut. Med. Woch.*, July 13, '99. Sajous' *Ana. Cycl. Prac. Med.*, 6th Re. Edit., 1910.

¹¹Darier, J., *Rev. de Therap. Med. Chir. Par.*, 1903, lxx, 153-156.

¹²Darier, *Bull. Acad. de Med. Par.*, 1903, 3. s. xlv, 616. Murray, G. D., *Am. Ophth.*, St. Louis, 1909, xviii, 224-240

¹³MacEnri, S. P., *Clin. Ophth. par.*, 1913, xix, 697.

¹⁴Fuchs, Ernst-Duane, A., 1908.

HYPERTHYROIDISM.*

WM. H. SMITH, M. D.,

Cincinnati, O.

IF we physicians paid a little more attention to the general conditions underlying the complaints and symptoms of our patients and less to trying to fit a hard and fast diagnosis or the name of a well defined pathological entity to them we would greatly facilitate the management of our cases.

It was not so many years ago that the pre-tubercular stage (if one may use that term) of phthisis pulmonalis was diagnosed as malaria, typhoid malaria, neurasthenia, etc., etc., these conditions "running into consumption," as it was termed, when the patient's condition became such that even his friends could diagnose it. Even to-day, despite all that has been said, anent the condition which precedes the symptom entente known as phthisis pulmonalis, we hear of young patients being told that they have a mild form of malaria or what not without any further investigation being made when they complain of malaise, gastric disturbances, slight loss of weight, perhaps an increase in the pulse rate and a slight cough.

How many professional jokes are perpetrated in the name of diet, because the attendant is indifferent or unwilling to ascertain by laboratory or even clinical research whether there is an increase, diminution, or perversion of secretion. Tacking on the name of one of the various diseases, under which affections of the gastric function are necessarily classified, he blindly suggests a diet and gives a prescription, trusting to luck and nature.

If the gastric disturbances, the troubled sleep, the slightly accelerated pulse, the irritability and the malaise of the business man or the woman past forty—the general condition that precedes chronic nephritis, cerebral hæmorrhages, some forms of glaucoma, etc., etc.—instead of being labeled sluggish liver, malaria and what not, were given proper consideration and attention, much could be done to prolong the life and add to the comfort of the patient. We need not wait until albuminuria is discovered by the insurance examiner or the

*Read before the Cincinnati Homœopathic Lyceum.

patient has had an attack of cerebral hæmorrhage or an eye is more or less permanently damaged by glaucoma, before we heed the warning symptoms of a general condition of the human economy that precedes a destructive storm.

There is, as a rule, preceding our more chronic affections, a more or less general perversion of physiological function, which, if properly interpreted, will put the practitioner in position to prevent, or, at least, postpone an otherwise serious catastrophe. In other words, to wait until the symptom entente is pathognomonic of some pathologic entity means waste of valuable time that might be put to good use in anticipating the more serious conditions, thereby conserving the patient's vitality and resistance. To diagnose a disease properly is creditable, but to anticipate it is even more so.

Under the head of diseases of the thyroid gland we have several well defined pathologic states, such as cretinism, myxœdema and Basedow's or Graves' disease, each having a group of definite classical symptoms that are peculiarly diagnostic. Unless these symptoms are present in their entirety we are inclined to overlook the lesser conditions due to moderate disturbances in the function of the thyroid. I remember well some eighteen years ago, in the first year of my practice, of calling the attention of an older physician to a series of nine cases of exophthalmic goitre that I had seen, all mild excepting two, and probably some were simple hyperthyroidism. The physician in question thought that that was remarkable, as he had practiced some fifteen or sixteen years up to that time and had seen none. He, like many others, has seen no cases typical of the pathological entity then known as exophthalmic goitre, and had probably overlooked many cases of simple hyperthyroidism or had diagnosed them as functional heart disease, nervousness, etc.

The symptom complex peculiar to excessive thyroid secretion, though varied, is characteristic in each of its variations. However, each case presents such a train of general symptoms as to easily distract the professional attention from the primary cause of the general disturbance. This condition is usually found in young women, and probably gets its start in the thyroid changes that occur normally during the period of adolescence, that is, at the age when sex development is taking place. When puberty is well established, that is about seventeen or eighteen, the thyroid functions should have reached a definite physiological balance. However, in many instances this does not

occur and the thyroid activity exceeds the physiological demand, to the detriment of the general health of the patient. The patient becomes thin, lacking the general rotundity of figure characteristic of well developed young womanhood; is highly nervous; suffers more or less from gastric derangement, perhaps more or less from irregularity of menstruation with a tendency to scanty flow, and a rapid heart action. Apparent enlargement of the thyroid may be present or not.

While it is to be remembered that we are discussing simple hyperthyroidism, it is impossible to draw a hard and fast distinction between that and true exophthalmic goitre. Taking up the symptoms separately we have first the unnatural thinness, if one may use that word. It is not necessarily emaciation as the patient may never have been any fleshier. Instead of rounding out, as she should have done as puberty develops, she remained thin, so to speak. Nervousness is characteristic of this condition, and to this state the patient's whole general condition is usually attributed. Her mother and, as a rule, her doctor, lay all her ill health to (just) nervousness when in reality the highly nervous state is only symptomatic.

The digestive derangement usually takes the form of hyperacidity. I do not recall a single case of hyperthyroidism which did not exhibit all the earmarks of severe gastric hypersecretion. This gastric disturbance adds materially to the nervous irritability already present, and is often diagnosed as nervous dyspepsia. The hyperacidity serves only to increase further the rapid heart action produced by the increased thyroid secretions, the two producing a sort of vicious cycle, so to speak. It is hardly necessary for me to elaborate on the symptoms of hyperacidity. The patient usually has a good appetite, in fact, the appetite often amounts to an unnatural hunger or, as some describe it, a gnawing hunger, accompanied by a sense of weakness when the stomach is empty. There is usually some dizziness, and in the majority of cases the patient suffers with violent headache; often there is constipation and the sleep is disturbed by troublesome dreams. The patient may be temporarily relieved by partaking of food, only to experience the same trouble again in a few hours. I have just enumerated enough symptoms to indicate what I mean by hyperacidity.

The heart action of hyperthyroidism is invariably rapid and irritable. Often the pulse is irregular, giving the impression of skipping. There is usually a booming sound to the valve action, easily mistaken for actual murmurs. In fact, tachycardia is so constant a symptom

of hyperthyroidism that Doctor I. W. Ballard in a recent paper on the subject says that in the absence of any other cause persistent tachycardia, with or without thyroid enlargement, should be considered as due to hyperthyroidism.

Another symptom is tremor. When the patient fully extends the hands and widely separates the fingers a very fine wave-like trembling of the fingers will be noted.

The irregularity of the menses needs no further elaboration.

I shall recite just a few cases to complete the picture I have endeavored to draw.

Miss H. E., in the early twenties, highly nervous and extremely thin. Although over five feet eight inches in height, she weighed less than 115 pounds, but was possessed of a large appetite. A very slight enlargement of the thyroid was present, so slight that the patient was unaware of its presence. Pulse varied from 118 to 130, and increased upon the slightest exertion. Had been treated for a long time for heart disease. The rapid heart action soon dropped to 80 per minute, and other symptoms rapidly abated under treatment directed to the thyroid.

Mrs. H. presented the same set of symptoms except that the rapid heart action was even *more marked*, often so bad that the patient had to lie down. The menstruation was very irregular, often skipping an entire period. This case also had been treated for heart disease for a long time. Symptoms rapidly abated and patient gained weight when attention was given to the thyroid state.

Miss B., about 17 years, another so-called heart-disease case, was taken out of school and all active exercise prohibited while the heart was duly "toniced" to the queen's taste by her former medical attendant. Result of thyroid treatment was rapid subsidence of all symptoms and an increase in weight. The response to treatment in this case was remarkably rapid.

Miss N. W., exact age unknown. This case was called to my attention by Dr. McCleary. This patient was not so thin as the previous one. She came to Dr. McCleary for the treatment of recurring ocular hæmorrhages. As one hæmorrhage about cleared up another occurred. She had a rapid pulse, a slight thyroid enlargement, of which she was not cognizant, was nervous, fingers trembled and her menstruation was very erratic. Her ocular hæmorrhages rapidly subsided under treatment of the thyroid gland.

Mrs. Blank, æt. 25 years, was a case remarkable in many ways. It is a question whether or not hers was a case of simple hyperthyroidism or a case of true Graves' disease. Probably a borderline case. However, the symptoms yielded so rapidly to mild treatment that I am inclined to class it with those of simple hyperthyroidism. She came to me complaining of a small goitre—and it was very small, but she had discovered it and being a woman that was sufficient. She stoutly maintained that she enjoyed the best of health. However, her pulse was over 90 and easily excited. She had a good appetite but remained painfully thin. There was also trembling of the fingers. During the course of treatment she confided to me that she for some reason or other had failed to conceive though married some years. She had been examined but no cause for the sterility could be detected. I hinted at the possibility of the thyroid condition being back of the trouble, but promised nothing. In three months her pulse dropped to 80, and she said she never before realized that she had not been in good health. She felt so much better now that she realized that she had been far from well. At about this time she conceived. This patient died of uremic convulsions after the birth of her baby. Sudden attacks of albuminuria with uremia occasionally occur in patients with hypersecretion of thyroid.

I could go on for hours reciting such cases that have come to my attention in Dr. McCleary's practice and my own, but these should be sufficient. Among many others I might have enumerated many in which the thyroid enlargement was out of all proportion to the symptoms resulting from the hypersecretion. One case especially, that of Miss A. A., æt. 18 years; blonde; fair sized enlargement of thyroid; appetite uncomfortably good, at times almost insatiable; otherwise she had no complaint to make. Her case was remarkable for the irregularity of the heart action. It was so irregular that I could only estimate the rapidity as above 90 per minute. It would skip the length of three or four beats and then become so rapid as to be uncountable for a few beats, then pause again. It was only after repeated examinations that I was able to determine that the booming of the heart sounds was not true murmurs. The rapidity with which the pulse became normal and other symptoms abated under treatment permitted this to be classed as a case of simple hyperthyroidism.

It will be noted that I have endeavored to draw a distinction between simple hyperthyroidism and true exophthalmic goitre. This

classification is purely arbitrary on my part, as the difference is really one of degree only. However, in my own experience there is a marked difference in these cases. I do not recall any such distinction in the works that I have access to, although Butler does speak of an acute and a chronic exophthalmic goitre, but does not go into detail. Under the head of simple hyperthyroidism I would place that class of cases which are infinitely more frequent than physicians fully realize and usually escape the physician's attention—because of the mildness of the symptoms being overlooked—and are usually given such vague diagnoses as nervousness, etc. A class of cases in which the enlargement of the thyroid is not constant, when properly handled, yield rapidly to treatment, the pulse in a few weeks dropping to near normal, while those cases that I classify as true exophthalmic goitre tax the ingenuity of the medical attendant to the utmost and seldom recover without surgical intervention.

Treatment. Formerly the treatment of this malady was directed to the circulatory disturbances, digitalis, strophanthus, lycopus and other heart remedies having their vogue and their supporters. I have had some results with lycopus and fucus, two circulatory remedies. Following that I used Forcheimer's R. of ergotine and quinine hydrobromide, this giving me for some time the best results. I must say that dynamic or symptomatic treatment along purely homœopathic lines in my hands has been a failure. A few years ago while endeavoring to relieve the acute distress caused by the gastric hyperacidity in several cases, I stumbled across the fact that the atropin administered for the stomach disturbance had a salutary effect on the entire thyroid condition. Since then I have been using atropin 1/250 gr. t. i. d (preferably an hour after meals) in connection with some form of arsenic, preferably cinchonidia arsenite. This combination has been more successful in my hands than the Forcheimer prescription. In connection with the remedial treatment I use electricity in the form of galvanism (the positive pole over the thyroid and the negative over the spine) followed by the oudin current (a form of high frequency having a contracting effect upon arterioles). Of late a great deal has been said about the use of the x-ray in this condition. If the ray is administered through an aluminum screen it can be given for a long period without causing burns. The x-ray seems to have a marked inhibitive action. Personally, I have not used it, but shall administer it in the first case that fails to yield to the simpler treat-

ment. The treatment as outlined will be found of value in all forms of thyroid disease characterized by increased secretion. However, the more severe forms (which I have termed true exophthalmic goitre) may demand some form of surgical intervention.

I note in a summary of an article in the *Journal of the A. M. A.*, January 10, 1914, that Watson, of Oklahoma City, has been credited with some remarkable results following the injection of quinine and urea hydrochlorid into the thyroid gland. His technic is given in full in the article in question.

As a good working basis for the use of ductless-gland extracts in the ear affections the author advances the theory, supported by Beebe's conception of the thyroid function as that of a metabolic detoxicator, that tinnitus aurium can be caused by toxins irritating either the auditory centers or the cochlear nerve or its endings, and that such toxins may be produced by a lack of some one or more of the ductless-gland secretions. Deafness is known to occur in cretins, and to improve under thyroid. G. Bruhl has recently stated that, having used thyroid treatment himself, he was led to infer, after several successful cases, that there exists a connection between function or loss of function of the thyroid and the organ of hearing. The outlook along these lines is encouraging and should stimulate more research on the part of others.—H. Y. McNAUGHT. *Ext., Ductless-Gland Extracts in Relation to Ear Affections. Monthly Cyclop. and Med. Bull.*, July, 1914.

SOME OBSERVATIONS MADE IN ATYPICAL CASES OF MASTOIDITIS.*

GEORGE W. MACKENZIE, M. D.,

Philadelphia, Pa.

BEFORE recounting our observations made in atypical cases of mastoiditis it is well that we review briefly the more typical that we might, to better advantage, contrast the two. Eventually we shall attempt to reason out the causal factors that have operated to make the one case typical and the other atypical, with the object of fixing more or less definitely the line of treatment to be pursued in each.

Mastoiditis stands for an inflammation of the mucous-membrane-lined cells of the mastoid process. Mastoiditis may be mild or severe. In the severe form there occurs suppuration; while in the most severe the destruction reaches the bone, when we have resulting caries and necrosis.

Suppurative mastoiditis, also referred to as mastoid empyema, is due to the spreading of an infection from the middle ear cavity and it in turn is due to the spreading of an infection from the nasopharynx by way of the Eustachian tube; so that we may safely say that the actuating cause of the mastoiditis was some original infection in the naso-pharynx. The original infection is favored by lowered resistance of the patient to the particular invading micro-organism. The recognition of this fact has prompted us of late to attempt to increase the patient's resistance by the use of vaccines. The presence of pathologically enlarged adenoids acts as a contributing factor to the spreading of the infection up the Eustachian tube. As soon as the tube is invaded the coincident inflammatory swelling of its lining mucous membrane closes its lumen. The immediate effect of this closure is to produce diminished or negative air pressure in the middle ear cavity, thereby favoring the rapid formation of pathologic secretion.

This secretion which is at first mucoid later becomes mixed with

*Read before the Essex County Med. Society, at Newark, N. J., October, 1914.

serum (sero-mucus), still later sero-pus and finally pure pus; occasionally, as the result of small hæmorrhages, the pus may be more or less tinged with blood. Sooner or later, because of continued closure of the Eustachian tube, the secretion becomes confined under pressure. The pressure is exerted equally in all directions and is relieved only through the rupture of the most yielding portion of the tympanic walls, which, fortunately, in most cases is the tympanic membrane. When the pressure is thus relieved the patient experiences an almost immediate relief from the more or less intense throbbing pain which he had previously suffered. Not only does the inflammatory process tend to diminish in intensity but also in the extent of area involved, but not necessarily in the amount of secretion from the ear. In the great majority of cases there is an abatement in all symptoms so that in a day or two the patient feels quite comfortable except for the discharge, which persists with gradual diminution for a few weeks, leaving the patient with normal or slightly impaired hearing. There are exceptional cases where the discharge persists and the case becomes one of chronic middle ear suppuration. There are others where complications arise, from among which we shall select Acute Mastoid Abscess as our subject for further study to-night.

Acute Mastoid Abscess, as already pointed out, is secondary to and results from the extension of suppuration of the mucous membrane lining the middle ear cavity to the mucous membrane lining the mastoid cells by the direct anatomically performed route, the aditus ad antrum. The aditus behaves much the same toward the development of Mastoid Abscess as does the Eustachian tube toward middle ear suppuration. The aditus is practically a narrow, tube-like isthmus connecting the middle ear cavity with the mastoid cells. If during the course of acute middle ear suppuration the inflammation continues to spread with sufficient intensity to close the aditus, we have a condition favorable for the development of Mastoid Abscess, just as we had in the middle ear cavity from inflammatory closure of the Eustachian tube. Mastoid Abscess may occur as an early or late complication of acute middle ear suppuration. Generally it occurs late, during the subsiding stage. A typical case develops a few weeks after rupture of the membrane, at a time when the patient manifests few if any symptoms, when suddenly there appears a flare-up! Many of the symptoms experienced by the patient during the early stage of his acute middle ear suppuration are recalled, including pain in

and about the ear, tenderness, fever, headache, general malaise the result of the toxemia, etc. Less frequently, therefore somewhat atypically, the mastoid involvement begins quite early, within a few days of the onset of the middle ear affection. These naturally are the fulminating cases. In still more marked cases the mastoid may become involved even before the membrane has ruptured. These last mentioned cases are they that show early intracranial involvement with fatal termination.

Let us tabulate the symptoms and signs of typical Mastoid Abscess and contrast them with the symptoms and signs of the atypical.

Typical Mastoid Abscess.

1. History of middle ear suppuration, *i. e.*, earache followed by discharge and associated with impairment of hearing.

2. Develops during the subsiding stage of acute middle ear suppuration, two or three weeks after rupture of the tympanic membrane.

3. Because of the above mentioned facts we find a perforation of the tympanic membrane frequently pointing at the apex of a swelling of the membrane, more often of the upper posterior quadrant.

Atypical Mastoid Abscess.

1. History of middle ear suppuration may be negative. The patient will, however, give a history of pain in ear or side of head which is occasionally misdiagnosed neuralgia due to some other cause.

2. It may develop during the early (active) stage of acute middle ear suppuration, occasionally before the rupture of the tympanic membrane. In more or less atypical cases it may develop shortly after rupture. In the latter case Mastoid Abscess may be suspected from the fact that the patient has not experienced the relief which ordinarily follows the rupture of the membrane.

3. The membrane may be intact. However, it never appears normal in the case of Mastoid Abscess, but on the contrary it appears *dull*, like frosted glass, due to the unevenness of the surface.

Typical Mastoid Abscess.

4. The secretion is generally thick; however, it may be somewhat thin, and it seems to issue pulsating from the perforation.

5. The *amount* of secretion from the ear usually differs from what it was before the onset of mastoid complication. It may be increased, but more often is diminished.

6. There is usually pain in the ear, and particularly over the mastoid process. In these cases where the abscess breaks through the bone externally, the pain diminishes perceptibly.

7. Tenderness over the mastoid is usually pronounced. This tenderness may occur immediately over the region of the antrum, but more often over the tip of the mastoid.

8. Impairment of hearing is usually marked and is of the type corresponding to that found in diseases of the conducting apparatus.

9. Retroauricular swelling appears sooner or later when the auricle stands out from the head and is inclined forward and downward, the classical text book picture.

Atypical Mastoid Abscess.

4. If the membrane is intact we find no otorrhœa; if ruptured, we may find the same general characteristics of membrane as in the opposite column.

5. If it happens to be one of those atypical cases without perforation we would naturally find no secretion.

6. Pain deep in the ear is pronounced, while that over the mastoid may be only moderate.

7. Tenderness like the pain may be slight, while in some, rare, cases it may be absent.

8. Impairment of hearing may be slight, and of the type belonging to disease of the conducting apparatus.

9. Retroauricular swelling may be absent. However, to one accustomed to palpating the mastoid region there will be noted, at least some slight swelling of the periosteum, together with diminished mobility of the periosteum over the underlying bone.

Typical Mastoid Abscess.

10. We find swelling of the periosteum over the upper and posterior portion of the osseous canal causing a corresponding diminution in the lumen of the canal.

11. Fever is usually present, the temperature ranging between 99.5° to 103° . Extreme fluctuation in temperature is characteristic of sinus involvement, and really does not belong to the subject of this paper.

Atypical Mastoid Abscess.

10. This swelling may be absent; however, this is rare even in the most atypical cases.

11. Fever may be absent. On the other hand, it may be quite high in the more fulminating cases.

In seeking out the causes of the atypical forms of mastoiditis we must consider the etiology of Mastoid Suppuration together with the local condition in the middle ear cavity and the antrum. Since mastoiditis occurs through the spreading of an infection from the middle ear cavity via the aditus, we can appreciate how a closure of the aditus favors the development of Mastoid Abscess. From this we reason out that the smaller the aditus the less swelling of its mucous membrane is required to close it. Furthermore, the more intense the infection the greater the inflammatory edema, hence, the greater the possibility of closure of the aditus. Incidentally, I may add that here we have from the pathologic standpoint a clear indication for such remedies as *apis* and *capsicum*.

Concerning the intensity of the inflammation, two factors are at work, namely, the virulency of the invading micro-organism and the resistancy of the patient. The most favorable combination for rapid spreading of an infection, therefore, is a very virulent micro-organism together with extremely low resistance of the patient, while the least favorable is a less virulent micro-organism together with a relatively high resistance. Since the work of Wright, of London, on opsonic index, it is possible to measure, in the laboratory, the patient's resistance, so to speak. This led to the next step, that of bacterin therapy; commenting on which, I may add that my experience thus far does not prove that this form of therapy solves the question of treatment in all cases.

A patient in apparently robust health may show a relatively low

opsonic index to a certain micro-organism, but to no other, and in this particular instance the indicated vaccine may be exceedingly helpful. There are other cases where because of some constitutional condition, for instance, diabetes, tuberculosis, syphilis, or other condition the patient's vitality has run low; or because of some previously debilitating disease or the rapid succession of acute ailments the patient's health is generally below par. In these latter cases the patient's resistance is not only lowered but his powers of repair are weakened. He is one who is naturally more likely to fall a prey to an infection, and in the event of an infection react poorly and present an atypical case; while the previously normal individual in the event of a severe infection will react after the average manner and present a typical case.

Let us see why the average typical case of Mastoiditis develops during the subsiding stage of acute middle ear suppuration, while the atypical develops during the active stage; and why, too, in the atypical case the Mastoid Abscess may develop before the membrane has ruptured. In the typical case the patient reacts from the primary invasion fairly well, until later, from an exposure or injudicious treatment or insufficient middle ear drainage, there is a sudden swelling of the mucous membrane of the aditus with resulting mastoid complication. In the atypical case the virulency of the infection is so severe that the patient is overwhelmed; he does not have time to react and form the antibodies early enough to prevent this super-rapid spreading of the infection. In fact, such cases may be so virulent that the patient is almost simultaneously affected in the mastoid, internal ear, and cranial cavities and dies within a few days. The micro-organism in many of these cases has been found to be the streptococcus.

In other cases we find the tympanic membrane so thickened by organized secretion from previous attacks of acute secretory catarrh that it is overly resistant and thereby permits the pus to be retained longer and under higher pressure than would occur under normal conditions. In still other cases there exist, as a result of a previous attack of secretory catarrh, adhesive bands or abnormally narrowed aditus which favor the early and more complete closure of the aditus in the event of an acute middle ear suppuration.

Why does the typical case present more pain than a certain other atypical one? Because in the typical case the patient having been previously quite normal reacts vigorously; he suffers more—his symp-

toms are more sthenic. In the other case the patient, having been previously below par, reacts poorly. He is a sicker patient and shows it generally, but has less intense local symptoms. He represents the asthenic type. For the same reason the asthenic type may show less fever than the sthenic. Pain and fever are accompaniments of reaction and should be looked upon as rather more favorable signs than the lack of them. The same holds true with all infections; however, there are exceptions to this rule.

The typical case will show eventually retroauricular swelling, which is a rather favorable sign, since it indicates that the external wall of the mastoid is the least resistant. Furthermore, in a given case when pronounced swelling appears behind the ear there is a proportionate amelioration of pain. In those atypical cases showing little or no swelling the dangers are greater, because the external wall is thicker and less yielding than the average. In consequence we find a greater tendency for the pus to release itself from the mastoid cavity in some other, less favorable, direction.

The swelling of the periosteum over the upper posterior half of the osseous canal is a very frequent sign of mastoid disease, therefore quite typical. It may be absent or only apparently so in atypical cases for the same reason that the external surface of the mastoid may escape swelling.

Tenderness over the mastoid is merely indicative of an external periostitis and consequently is found earliest and most pronounced in those cases with the thinnest external wall, and least so in those cases with the thickest. The atypical cases are naturally the rarest and have the thick external wall.

Impairment of hearing in typical cases is quite marked, while in the atypical it is often less so. This is possible in a case of infection which tends to spread rapidly in a previously healthy individual where the mastoid is invaded early, while in the meantime the middle ear may have recuperated in part from the force of the infection aided by an early reopening of the Eustachian tube. No doubt some of these cases have been misdiagnosed primary Mastoid Abscess.

A great deal more might be said by way of contrasting the typical with atypical cases of Mastoid Abscess; however enough has been cited from which to draw the conclusion that the more typical the Mastoid Abscess the less the danger, and vice versa, and this is one of the objects for which the paper is presented.

General Remarks on Treatment.—Our first duty in the prevention of

Mastoid Abscess is to prevent as far as possible the development of middle ear abscess. This can be accomplished best by first giving attention to the general health of our patients and having them avoid colds and infection so far as they are able.

2. Treating every recent cold or infection to the best of our ability, remembering that acute adenoid inflammation results from these infections. Also treat the patient persistently until every trace of his recent infection has cleared away.

3. Examine every little one that comes to you with the history of repeated colds, especially when associated with earache, for pathologically enlarged tonsils and adenoids, and when found make an effort to treat them after your own plan. And if you are a general practitioner and find that you have failed after reasonable effort at conservative treatment, send them to a competent specialist whose opinion you feel that you can trust, and permit him to remove them if he thinks best to do so.

4. If in spite of the above mentioned precaution, middle ear supuration should develop, do not fail to puncture the tympanic membrane early and freely. If necessary repeat the operation, for the main object is to prevent the accumulation of secretion under pressure.

5. Appreciating the fact that the closure of the aditus by inflammatory edema favors the development of Mastoid Abscess, give belladonna, apis, capsicum, or whatever other remedy may seem to be indicated, if for no other purpose than to relieve the swelling and prevent continued closure of the aditus.

6. Don't forget that though Mastoiditis develops by the spreading of inflammation from the middle ear cavity through the aditus to the mastoid, that in the particular case under consideration some faulty systemic condition, perhaps quite obscure, may be the most important contributing factor, and that a remedy aimed at the totality may be the one thing alone that can bring about a cure.

7. In the active cases, where the patient has previously experienced excellent health, remember that the vaccines are most helpful. This has been repeatedly borne out in my personal experience.

8. The question of how soon we shall operate is a matter of individual option. From my own viewpoint I believe that when the diagnosis of Mastoiditis is definitely made, the earlier we operate the better; and even then we should not be entirely satisfied until we have brought into action every method of treatment as adjuvants that is known to be helpful in such cases.

1831 Chestnut St.

HOMŒOPATHIC MATERIA MEDICA AND THERAPEUTICS.

Remedies for Ear Affections.

Belladonna. The remedy in acute otitis, with digging, boring, tearing pains, which come suddenly and are most violent; the membrana tympani is covered with injected blood vessels. It is the remedy in earache where the symptoms are too violent for *Pulsatilla*. The pains come and go suddenly. All the symptoms are worse at night and are relieved by warmth.

Aconite. Bayes recommends *Aconite* in the maddening pains of otitis, claiming it to be far superior to *Chamomilla* or *Pulsatilla*. There is dark redness of the parts, stinging, lancinating or throbbing pains and great sensitiveness. It suits earache from sudden change of temperature; it is worse at night and is aggravated by warmth. Its influence is restricted to a brief period immediately following exposure. In this respect Copeland says: "It differs from *Ferrum phosphoricum*, which has a much longer period of usefulness."

Pulsatilla. A great ear remedy. It exerts a specific curative power in otitis externa; the ear is hot, red and swollen, and there are very severe darting, tearing, pulsating pains in it which are worse at night. It, too, occupies the highest place for acute inflammation of the middle ear. It is indicated, also, by profuse thick, yellowish-green discharge from the ear, deafness and a feeling as if the ears were stopped up, or as if something were being forced out; there are also roaring noises synchronous with the pulse. It suits especially subacute cases. Itching deep in the ear.

Plantago. Earache associated with toothache; also, excellent locally. Pain goes through head from one ear to the other.

Tellurium. A most excellent remedy in otitis media with thin, acrid, offensive discharge, very profuse and long-lasting; canal sensitive to touch.

Hydrastis is a remedy not to be overlooked in catarrhal inflammation of the middle ear with accompanying nasopharyngeal catarrh, tinnitus aurium and thick, tenacious discharges.

Kali sulphuricum. Useful in typical *Pulsatilla* cases with orange-yellow discharges.

Ferrum phosphoricum. This remedy is a most useful one in ear affections, suiting congestive and inflammatory stages of most ear troubles, more especially in anæmic subjects. It is a reliable remedy in acute earache; it has tinnitus like *Pulsatilla*, but no special deafness, and like *Borax*, it has sensitiveness to sound. The pain is throbbing or sharp stitching and occurs in paroxysms. The following is Dr. Wanstall's practical résumé:

1. A tendency of the inflammatory process to be diffused instead of circumscribed.

2. Dark, beefy redness of the parts.
3. A muco-purulent discharge with tendency to hæmorrhage.
4. The establishment of the discharge does not relieve the pain.
5. The pain is in paroxysms.

Copeland claims that for earache after exposure to wet there is no better remedy.

Kali muriaticum is one of the most useful remedies in tubal catarrh and catarrhal conditions of the middle ear; it seems to clear the Eustachian tube, which is closed in these cases, causing deafness, subjective sounds and retracted membrana tympani. It is useful in chronic suppurative conditions, reducing the proliferation, checking the granulation and hastening repair. Slowly progressing deafness will often yield to the remedy. It is also a remedy for obstinate eczemas about the auricle, especially if accompanied with the gastric disturbances of the remedy. "The most valuable single remedy for the deafness following purulent or catarrhal otitis media."—*Moffat*.

Magnesia phosphorica has a purely nervous otalgia, worse in cold air and relieved by warmth.

Kali phosphoricum may also be a remedy in chronic suppurations of the middle ear, with offensive, dirty pus, brownish and watery.

Chamomilla. Almost specific in infantile earache; the pains are violent, worse from warmth, the cheeks are red, the patient is restless, fretful, and there is great hyperæsthesia and much suffering. Patient worse at night and from slightest cold.

Borax. Child starts up nervously with the pain; muco-purulent otorrhea.

Dulcamara. Earache returning with every change of weather, worse at night. Relieved by application of dry heat.

Sanguinaria. Climacteric earache.

Capsicum corresponds to otitis media with rupture of the membrana tympani, and great soreness of the mastoid portion of the temporal bone. It suits also chronic suppurations of the ear with bursting headache and chilliness; the ears are hot, and the pain goes to the throat, the drum is perforated and there is a yellow, purulent discharge. It is to be differentiated from *Hepar* in that the area of sensitiveness is greater than with *Hepar*, and it lacks the nocturnal aggravation of *Mercurius*. Dr. Weaver, of Philadelphia, states that he has seen cases where every indication would point to mastoid operation relieved by *Capsicum*, and cautions against using it too low. He uses the 6x dilution. Subacute inflammation of the Eustachian tube with great pain and a sense of dryness and heat in the throat indicate *Capsicum*.

Calcarea carbonica corresponds to chronic ear troubles in scrofulous children. There is itching of the membrana tympani, defective hearing, humming and roaring in the ears, purulent otorrhœas with perforation of the drum, polypi, etc. Deafness from working in water.

Nitric acid may prove useful in mastoid abscesses and syphilitic ear troubles.

Kali bichromicum. Inflammation of middle ear; ulceration of membrana tympani with tenacious, stringy and purulent discharges; pains stitching in character. Also a valuable remedy in the later stages, when, on account of a pharyngeal involvement, the Eustachian tube is hard to inflate.

Aurum has a congestive roaring in ears, sensitiveness to noise, fetid otorrhœa, boring pains in mastoid, caries and perforation of drum.

Baryta carbonica is to be thought of in deafness associated with swelling of the tonsils.

Phosphorus. Deafness to the human voice, common in the aged or where the patient is constantly blowing small quantities of blood from the nose.

Mercurius. Very valuable in suppurative middle ear disease, with swelling of parotid glands and offensive breath. It suits especially scrofulous and syphilitic ear conditions. It is especially valuable in proliferous middle ear diseases, hardness of hearing due to swollen tonsils. The discharges are thin and acrid, the ears, teeth and face ache, symptoms worse at night, and characteristic is a feeling of stoppage and of internal soreness as if raw, and also roaring in ears.

Mercurius dulcis. Chronic inflammation of the middle ear, with deep-toned roaring. The membrana tympani is thickened, retracted and immovable by inflation. It suits especially Eustachian catarrhal deafness.

Graphites has catarrh of Eustachian tube and hardness of hearing, which is better riding in a carriage. Gluey discharge will indicate as well as eczematous manifestations.

Carbo vegetabilis. Otorrhœa following exanthematous diseases; ears dry.

Carbo animalis. Cannot tell whence sounds come.

Iodine cured for Dr. Hughes a case of catarrhal deafness.

Silicea. Very valuable in suppurative middle ear troubles, especially in cases complicated with caries or necrosis of the bones and attended with a thin, ichorous and offensive discharge containing little pieces of bone. Perforations of the membrana tympani heal rapidly under *Silicea*. A peculiar symptom leading to the remedy is an itching and tingling in the locality of the Eustachian tube. There are also shooting pains through the ear and profuse perspiration, sudden snuffing, cracking sound in the ear like the explosion of a percussion cap. It promotes repair of the drum head. It is most frequently indicated in persistent chronic otorrhœa with oversensitiveness to sounds. Dr. Moffat advises changing to *Lapis albus* after use of *Silicea* for too long a time.

Hepar sulphur. Also valuable in suppurative otitis media, and is useful in earache when suppuration impends. There is great soreness and sensitiveness to the slightest touch, acute exacerbations of the trouble with increased discharge, which is thick, creamy and somewhat

offensive. Patients requiring *Hepar* are irritable and sensitive to the slightest draft of air.

Lachesis. Roaring and singing in the ears, relieved by putting finger in the ear and shaking it, therefore catarrhal.

Crotalus. Stuffed feeling in ear and a sensation as if wax were trickling out.

Conium. Increased quantity of dark wax.

Hepar suits especially otorrhœas dating from scarlatina.

Causticum. This remedy is useful in roaring and buzzing in the ears, words and sounds re-echo unpleasantly. It suits a catarrh of the Eustachian tube.

Chenopodium has deafness to low tones, while the higher ones are distinctly heard. Its special field of action is in affections of the auditory nerves.

Sanguinaria has humming and roaring in the ears, and painful sensitiveness to sounds.

Salicylic acid. Menière's disease and simple deafness with tinnitus. *Arnica* has proved of benefit in Menière's disease. Pain in the cartilages of the ears, as if bruised, is another indication.

Bryonia is highly spoken of by Dr. Dudley Wright, of London, in Menière's disease, as suiting those cases where the vertigo comes on from any sudden motion, as on rising from a seat.

Sulphur is useful for a most offensive discharge from the ears and syringing does no good, the ears are red, raw and the discharge excoriates.

Psorinum is even better than *Sulphur* in cases of offensive discharges from the ears; there is with this remedy a general unhealthy condition of the patient, pustules appear on the face, around the nose, mouth and ears, the blood is impure and the system run down. It is a remedy not to be despised in ear affections, and is especially to be considered in cases of chronic otitis media, probably of tubercular origin, in which other remedies and methods of treatment have been tried unsuccessfully.—*Dewey's Practical Homœopathic Therapeutics*, pp. 108-113.

CURRENT LITERATURE.

DEPARTMENT EDITORS.

WM. McLEAN, M. D.,
New York.

FRANK O. NAGLE, M. D.,
Philadelphia, Pa.

With the present conditions in Europe it is impossible to present a review of foreign literature that is at all extensive.

German journals are no longer available and the French have practically all suspended publication. The Italian are still being published but they are delayed or irregular.

The *Annals D'Oculistique*, of Paris, and the *Archives D'Ophthalmologie* ended with the June issue, and *La Clinique Ophthalmologique* lasted only until July.

Following are a few notes from the last issues:

ANNALES d'OCULISTIQUE, Juin.

1. Results of the operative treatment of glaucoma from the earliest times until to-day. M. D. E. Sulzer.

The author reviews briefly the various operative measures suggested for the relief of glaucoma beginning with the iridectomy of von Graefe, in 1856.

After trying practically every procedure thus far suggested the author concludes as follows: "Operative intervention in glaucoma is always uncertain, sometimes deceptive in results but excellent in many cases, especially when resorted to in the early stages.

2. Conjunctival flap, conjunctival incision, suture of the cornea and suture of Van Lint in the operation for cataract. Louis Vacher and Maurice Dennis.

After describing in detail these various procedures and discussing their several merits, the author concludes: "For more than fifteen years we have not operated for cataract without the conjunctival flap. More than one thousand operations made with our technique enable us to say that among all the procedures commonly employed the one which gives the greatest security at the time of operation, which best preserves the normal position of the iris and capsule, and which best guards against post-operative complications is this one."

Since it presents no serious difficulty and with little practice is more

easily made than others, we cannot too strongly recommend it to our colleagues as a routine.

3. Dr. C. Pascheff, of Sophia, reports an interesting case of transient myopia occurring during an attack of orbital cellulitis in a farmer 26 years of age. After three weeks, with subsidence of the cellulitis, the eye was again emmetropic with normal vision and accommodation.

The author concludes from observation of this case that there is an intimate relation between orbital and intra-ocular tension at least in some pathological conditions.

ARCHIVES D'OPHTHALMOLOGIE. Juin.

1. The relief of intraocular tension. Felix La Grange.

The author discusses at length different non-surgical measures employed for the relief of intraocular tension, and reports numerous clinical cases including several of hypotension with detachment of the retina. He believes that the pressure bandage is of the greatest service in this condition. "We would not pretend to say that detachment of the retina can be cured by the pressure bandage. Nothing in our experience would warrant us in making such a statement. But we firmly believe that the pressure bandage is of the highest usefulness, at least in eyes with a tension of fifteen millimeters less than normal. It is certainly a preventive treatment in this most formidable condition."

Vinsonneau writes upon the ocular lesions occurring in epidemic cerebro-spinal meningitis, and concludes as follows:

"Frequent ocular examinations are necessary during the course of every case of meningitis. Second, the occurrence from the beginning of ocular lesions indicates the repetition of puncture with serum injections in every case. Third, reports of all cases of ocular lesion in the course of meningitis should be made in order to establish a clear definition of clinical types."

LA CLINIQUE OPHTHALMOLOGIQUE, Juillet.

Dr. Theodore Domic (Dijon) reports two cases of sclero-iridectomy in irido-choroiditis of a malignant form. The author makes an interesting comparison between this operation and the procedure of Elliott, and emphasizes the fact that whichever measure is adapted should be applied at the earliest possible moment.

Dr. Jacqueau, of Lyons, reports a case of glaucoma occurring two years after a cataract extraction. Iridectomy failed to give relief, but sclerectomy was followed by an apparently complete cure.

BURTON HASELTINE.

**THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
October 31.**

1. Latent and tertiary syphilis in diseases of the nose and throat.
C. R. C. Borden.

Dr. Borden emphasizes what we as nose and throat men often realize more seriously than our confreres, that is, the indefiniteness and independability of the so-called stages of syphilis. . . . "From a purely scientific standpoint latent syphilis cannot exist. An individual either has the disease or he is entirely free from it. If spirochaetes are anywhere in the system he has syphilis. If no spirochaetes are present the opposite condition is true. Symptomatically, however, there is often a quiescent period in the disease in which no active lesions are present, regardless as to whether the Wassermann test is negative or positive. For want of a better term we may usefully and properly refer to this stage of the disease as 'latent syphilis.'"

Latent syphilis is a particularly important matter in nose and throat practice, inasmuch as operations in that field may rapidly change the latent disease into a very active one.

Dr. Borden routinely takes a Wassermann admitted to the wards on his service. We have no moral or legal right to perform a destructive operation of any magnitude on the nose and throat until the test has been made.

Operating on a patient with latent syphilis has the same effect as a provocative Wassermann, but unlike that procedure it has no power to overcome the mischief it has liberated.

Borden cites the independability of the Wassermann in children, and again recites the influence of treatments upon the test. "The Noguchi test is practically the same as the Wassermann; Dr. Sanborn's large series of cases in the Boston City Hospital gave results equal in every way. The Cretin test will show up at times when the Wassermann is negative.

The stigmata and all the pathological manifestations of the disease should be run down as most valuable aids to establishing the case.

Bone syphilis is least prone to show a positive Wassermann; these cases respond well to the provocative test.

Cases cited showing sinus conditions not responding to provocative Wassermann, were helped by the injection of the small dose of "606."

Acute post-operative reactions of a syphilitic nature are not as common as we might suppose. They do, however, occur with sufficient frequency to make them an important element in our work.

Dr. J. L. Lougce, of Boston, reports a series of twenty-four suppurative ear cases in which he has tried Yankauer's operation of closing the Eustachian tube. The results show that conditions on the whole were made worse. Six of the cases required radical mastoid operations within two months. It was found that by this method of curetting the bony portion of the Eustachian tube it was seldom possible to close the tube. In only two cases could the tube thus be permanently cut off from the nasopharynx.

DOUGLAS MACFARLAN.

Asthma in Children. Talbot is of the opinion that the evidence at hand points to the fact that asthma is a manifestation of anaphylaxis, namely, a local manifestation in the lungs. It is conceivable that the urticaria, which is seen on the skin, may also come on the mucous membrane of the bronchi, and thus cause the symptoms of asthma. Asthma in a certain number of children is due to egg poisoning. Scarification of the skin and inoculation with egg white will show whether egg albumin is the specific cause of the asthma. Many, if not all, cases of egg asthma may be immunized to egg white by feeding them with gradually increasing doses of egg albumin in capsules. When the egg idiosyncrasy is cured the asthma stops unless an idiosyncrasy to some other protein complicates the situation. Horse-asthma is an anaphylactic phenomenon due to protein of the horse and may be recognized by scarifying the skin and applying horse-serum. A similar reaction to the egg reaction results.—*Cur. Med. Lit., J. A. M. A.*, Nov. 21, 1914.

SOCIETIES.

THE EYE, EAR, NOSE AND THROAT SOCIETY OF PHILADELPHIA.

THE regular meeting of the Philadelphia Eye, Ear, Nose and Throat Society was held on Monday, October 12, 1914, in Hahnemann Medical College.

Dr. H. S. Weaver reported a case of a tumor of the hard and soft palate. This occurred in a woman of middle age, weighting one hundred and sixty pounds. The tumor developed four years ago. Two years ago it was incised and curetted; following this it separated. Dr. Weaver dissected out the tumor in toto, and stitched the wound. The wound healed by first intention. Dr. Weaver stated that he had not received a report from the pathologist concerning the histo-pathology of this growth.

Dr. George Alexander expressed the opinion that Dr. Weaver's case was either an adeno- or fibro-carcinoma, and more likely to be an adeno-carcinoma. He thought it was carcinomatous because of its recurrence, although adenoma is also apt to occur again if it is not removed entirely. Dr. Alexander stated that he reported at the State Society a case of adeno-carcinoma of the hard palate, which had been partially removed two years ago. The doctor at his operation dissected it out, down to and including the periosteum. He found that it was attached to the anterior palatine nerve. The report of the pathologist was that the tumor was an adeno-carcinoma.

Dr. George Mackenzie reported a case of nasal obstruction. This patient presented a protruding face about the nose and sinuses. The patient claims that the facial expression has always been the same as it is now. In looking into the nose there is a partial occlusion of the nares by an increase in the size of the turbinate. These are stony hard.

About one-half inch in, with the probe, you can determine the perforation of the septum, which is apparently due to the pressure of the turbinates. There is a very offensive discharge from both nostrils. He was operated at the German Hospital two years ago, but without much improvement. Dr. Mackenzie operated the case, doing a modified Caldwell-Luc. He chiseled three-fourths of an inch into very hard bone. The operation could not be carried to completion because of the intense pain.

Dr. Mackenzie is having the specimen of bone which he removed examined to determine whether it is inflammatory or an osteoma. Dr. Mackenzie proposes to operate the case at the West Philadelphia Hospital, and will try to do a submucous resection of the inferior turbinates. The doctor asked the members of the society if they had any suggestions to offer in this connection.

Dr. H. S. Weaver said that he had had a case of bony nasal occlusion, but that it consisted of a bony plate extending directly across the nasal bone posteriorly. This occurred in a young girl fourteen years of age; the patient was a thin, puny, delicate child with a tubercular condition of the spine. Dr. Weaver stated that in this case he drilled through the bony partition, making as large an opening on either side as he could. It had a great tendency to close, but was kept open by daily dilatation covering a period of three months. While she has a small opening on either side of the nose she breathes perfectly, and has grown to be a strong healthy woman.

Dr. Mackenzie reported a case of a woman about forty years of age, apparently in good health. Her complaint was that she could not breathe through the right side of her nose; she had a slight proptosis of the right eye, and the eye was displaced downward without visual disturbance. There was some edema in the region of the cheek through the antrum. The glands on that side of the neck were enlarged. She stated that the condition had existed for about eighteen months. No Wassermann was made so we could not exclude syphilis. Clinically, through the position of the eye, we felt we must have a growth in the region of the ethmoid. There was a slight bloody discharge, very offensive, from the nose. The point that impressed Dr. Mackenzie was that the woman lacked the evidence of a general carcinomatosis. She had some involvement of the posterior pharyngeal wall, and the ear on that side was affected.

Dr. G. J. Palen stated that he had three cases of malignant disease starting in the nose. In one, the condition evidently started in the left nostril, and when he saw the case the antrum was completely filled with growth. A molar tooth had been removed on that side and from its alveolar process the mass was protruding. This was in a woman about 48 years of age. The growth spread rapidly, involving the hard and soft palate. The woman died about eight months after the onset of the disease. Colles' serum was used but without apparent effect.

Dr. Palen reported another case of sarcoma of the nose, which started as a thickening of the alae and continued for a period of two years. Then the interior of the nose began to thicken, narrowing the lumen on either side until complete occlusion occurred. The septum was then attacked, and finally the hard and soft palate. This patient lived about three years after the onset of the condition.

Dr. Palen reported a third case of sarcoma of the nose, also in a woman, which began as a nasal obstruction on the right side, gradually spreading throughout the nose. This patient also died, about one year after the onset of the condition.

Dr. Palen stated that the most interesting case of sarcoma he had ever seen was that of a man at the West Philadelphia Hospital five years ago. This patient presented a hard swelling over the right mastoid, extending well down from the sterno-mastoid muscle. Upon examining the canal a large mass of soft necrotic-looking tissue presented. This was removed but it recurred again in about twelve hours. There was an ophthalmoplegia involving the third nerve, and also an optic neuritis. Dr. Palen operated the patient and found a tremendous growth replacing the mastoid process, involving the muscles of the neck down to the great vessels. It was impossible to remove all of the growth. Dr. Charles Fox, who saw the case, was of the opinion, from a neurological standpoint, that the condition started in the pons.

Dr. H. S. Weaver spoke of a case of a young man who suddenly developed severe pain in the right ear. An hour and three-quarters after the onset of the pain Dr. Weaver performed a myringotomy; at this time the temperature was 101° . The operation brought about cessation of the pain. Culture from the ear showed streptococci, and on the second day an injection of vaccine was given. The same evening the patient had violent pain in the ear; next morning the temperature was normal and the ear was discharging. Two days later another injection of the vaccine was given, and again that evening he had violent pain in the ear. Three days following this he developed sensitiveness over the mastoid. The patient was given another injection of the stock vaccine; following this the symptoms apparently cleared up and the temperature was normal.

During the entire summer this patient has had occasional attacks of deep seated pain in the ear without discharge. The drum is perfect as is also the hearing. Dr. Weaver questions whether this patient has not some latent condition, and whether it would not have been advisable to

open the mastoid during his acute ear condition. Dr. Palen stated that the pain might have been due to a brain abscess, and Dr. Mackenzie said that the patient might readily pass through the latent stage of abscess and carry it around with him for years before it produced typical symptoms.

Dr. Clay stated that an x-ray study of this case might give the doctor some information.

Dr. Clay reported a case of a woman about sixty years of age who was sent to Dr. Palen's clinic at the Women's Homœopathic Hospital for an examination of her eyes because of failing vision. The doctor who sent this case stated that the patient was a diabetic, and that he feared she might have a retinal complication. This patient was rather corpulent, but said that she had not taken on any weight for a number of years. She was very fearful at times and quite despondent at others. Her daughter says that she sometimes becomes hysterical.

She suffers from very severe headaches, associated at times with nausea and vomiting. Her mentality appears to be failing; she is forgetful and careless of her personal appearance. Upon examination we found that vision of the right eye was 20/20, scant; in the left eye it was nil, although she could distinguish light and darkness. There was a well established neuro-retinitis on the left side, and a beginning optic neuritis on the right.

The visual field in this case has been unsatisfactory owing to the type of patient. Diagnosis of intra-cranial tumor was made, and the case was referred to and examined by Dr. W. L. Hicks, who made a tentative diagnosis of tumor of the hypophysis. Dr. Barker, our x-rayist, is making a serial x-ray study of this case.

Dr. Clay reported a case of gaps in the iris occurring in a woman of middle age, who came for relief of headache. This patient was not conscious of her eye condition, and assures us that she has never had any disease of the eye, never suffers any pain or other inconveniences. There was no malformation of the eye. The gaps occurred to the temporal side of the right iris. The sphincter pupilla was intact, and the edges of the pupil were perfectly round. There were no adhesions, and the pupil reacted to light and accommodation. The defects at the pupillary edge were complete, and with an ophthalmoscope the interior of the eyeball could be readily seen. The temporal extremity of the iris was normal.

Dr. Weaver mentioned a case of congenital coloboma of the iris

of the right eye. This eye was the seat of senile cataract, the left eye was also the seat of the cataractous changes, reducing the vision in this eye to 20/70. After using instillations of the 2 per cent. potassium iodine solution for a period of two weeks the vision improved to 20/50.

Dr. Palen reported a case of a man 60 years of age who had a dense scar of the right cornea. Shading off from this scar was a nebula. The vision in this eye was practically nil. The left eye was the seat of incipient cataract. This patient was placed upon instillation of 2 per cent. potassium iodine solution, and in six months time the scar had thinned out, and there were clear areas here and there. The nebula disappeared. This patient has regained enough vision to go around very well.

JOS V. F. CLAY, M. D., *Sec'y.*

Heredity in Myopia. From an analysis of 1,500 cases of myopia Dr. J. A. Wilson (*Brit. Med. Jour.*) concludes that heredity is a more important factor in its production than near-work, the latter only causing the hereditary tendency to become manifest. He does not find, however, that the transmission of myopia conforms to Mendelian laws but rather to what biometricians call the law of ancestral heredity or "average ancestral resemblance." There is evidence of heredity in 58 per cent. of his cases; keratitis is classed as the cause in 12 per cent.; cases in which evidence of heredity is unobtainable, 30 per cent. The mother plays the larger part in its transmission, and the condition is twice as common in the female as in the male. The author points out that not all people who have to use their eyes much for near work become myopic; and that, near-sighted people being adapted for near-sighted pursuits, they often have a selective predilection in this direction.

ABSTRACTS.

Clinical Studies on the Curative Action of Leucocyte Extracts in Infective Processes. In many infections the ultimate weapons of defense of the system are the leucocytes, either in their normal state, acting as phagocytes, or possibly when breaking down in the circulation or in exudates. In 1908 Hiss investigated the effect of leucocyte extracts on infections artificially produced in animals and, with Allen and Zinsser, tested the extracts on human patients suffering from various infections. The conclusion drawn from these tests was that leucocyte extract is an aid in overcoming infections due to such organisms as streptococci, staphylococci, the pneumococcus, meningococcus, and even other infections in which the leucocytes are not known to play such an important part in the resistance offered by the system. Later, Dwyer published a clinical report of six cases thus treated, and attributed the success attained in them to the influence of the extract.

Since their earlier reports the authors have treated a series of over 300 patients suffering from various infections. In the present paper the results obtained in erysipelas are alone considered.

Adrian Lambert has treated about fifty cases of erysipelas with extract supplied by the authors. His conclusions are as follows:

1. Leucocyte extract will abort infections that are treated with it within the first forty-eight hours.

2. It will ameliorate the course of older infections and may abruptly terminate them. The longer the infection has existed, the less likely is the latter to take place, but the measure tends to shorten the course of the disease.

3. The toxic symptoms, delirium, headache, nausea and vomiting are modified and relieved; local pain is lessened.

4. The rash does not disappear immediately but is apt to be localized.

5. Spreading intractable lesions of the back and body are apparently affected as readily as those occurring on the face and head.

6. Pus formation is aborted and sequelæ are rare, if they occur at all. About 50 per cent. of babies under one year of age recovered from erysipelas.—PHILIP HANSON HISS, JR., and JAMES GARFIELD DWYER, *Monthly Cyclopedia and Medical Bulletin*, October.

Intrinsic Cancer of the Larynx. Complete Excision Apparently Effected by Endolaryngeal Operation. The treatment of intrinsic cancer of the larynx by laryngofissure is remarkably satisfactory. It is doubtful if the results of operation for cancer in any other part of the body can surpass it. In a period of ten years I have not lost a case by operation, and 80 per cent. have remained free from recurrence.

The same proportion of lasting results were obtained by Simon, who did much to popularize laryngofissure in these cases; and similar records were secured earlier by Butlin, who revised the operation after it had been abandoned. Possibly because of the excellent results first obtained in England we have come to look askance at any other route than "splitting of the larynx" for removing endolaryngeal cancer. We are even sceptical of the permanent cures by operating through the mouth as claimed by several eminent authorities. Excision of cancer of a vocal cord should never be confided to the laryngeal forceps by way of the mouth.

Report of a case recently operated by way of laryngofissure with the aid of an infusion of ether and hedonal as an anesthetic administered through the internal malleolar vein in Hahn's tube was used. The remains of the right cord and ventricular band were dissected up with the perichondrium from the inner surface of the thyroid cartilage and removed *en masse* together with the vocal process of the arytenoid cartilage. The tracheotomy tube was removed before the patient left the table, and she would have been allowed up the next day if she had not been so exceedingly drowsy from the hedonal that she could scarcely be roused. Within forty-eight hours she was sitting out of bed, eating solid food, and was discharged in two weeks. The report of this case brings the following instinctive conclusions:

1. Cancer of the vocal cords is in the early stages a slowly progressive and limited process. In this case hoarseness dated from eight months previous; the cord was still quite mobile and the disease superficial. Alteration of voice is the principal symptom and may be the only one. This when persistent calls for a definite diagnosis.

2. Diagnosis is based chiefly on inspection of the larynx, and can only be confirmed by the microscope when the growth is a superficial one and not infiltrating.

3. Even when the growth occupies the entire length of the vocal cord it can sometimes be completely removed by laryngofissure in early cases, ascertained by including the adjoining soft parts and use of the microscope.

4. Laryngofissure is therefore the operation of choice in all cases of endolaryngeal cancer.

5. The operation offers the best prospects because the disease remains limited and superficial for some time, and because it cannot be considered a dangerous procedure.

6. Results show a lasting cure in 80 per cent. of cases; the percentage would be even greater if all cases could be gotten early.

If recurrence does not take place during the first year after operation, the prospects for permanent cure are very good.

If, as in this case, within two months after operation symptoms of recurrence present themselves, do not be alarmed; it is probably not cancer tissue, but nearly always a *simple granuloma*, which can be

removed by *indirect laryngoscopy*. This method has its advantages in that it can be done quickly, gently, and is practical because a large growth can be completely removed in one bite, and the forceps can be sloped to the opposite side of the body so that the growth can be more completely seized than is possible with Killian's *direct laryngoscopy*. It will be a loss to laryngoscopy and our patients if the rising generation of throat surgeons should neglect this gentler art for the easier but rougher technic of the direct examination.

Anæsthesia. Laryngofissure can be well carried out under local anæsthesia, but the moral ordeal will not be undertaken by many patients. In this case a general anæsthesia was induced by a mixture of 2 pints of saline solution, 2 ounces, $2\frac{1}{2}$ drachms of ether, and 46 grains of hedonal; the operation lasting eighty-five minutes.

From the operator's point of view this anæsthesia was perfectly ideal, the anæsthetist and his paraphernalia being clear of the field of operation and the patient's sleep tranquil and even. However, some disadvantages are to be considered: For example, (1) a deep sleep lasting twenty-four hours. (2) Patient could not cough in case of inspiration of blood during operation. (3) Thrombosis of the internal saphena vein has occurred. (4) Too large dose of hedonal must be used. At any rate, anæsthesia by intravenous infusion of ether has not established itself in my opinion for these cases. I have returned with satisfaction to the use of chloroform employed in the usual way.

—ST. CLAIR THOMPSON, *Jour. Amer. Med. Assoc.*, Sept. 19.

GEORGE J. ALEXANDER.

BOOK REVIEWS.

PRACTICAL HOMŒOPATHIC THERAPEUTICS. Arranged and compiled by W. A. DEWEY, M. D. *Second edition. Revised and enlarged.* 426 pages. Cloth, \$2.50, net. Philadelphia: Boericke & Tafel, 1914.

This handy book of reference deals entirely with the Homœopathic Therapeutics. The book should be on the shelf or rather the desk of the busy practitioner who, in the ordinary run of his work, has not time to look up the more elaborate repertories. The author's comparison of the vaccines with the nosodes sets forth clearly who were the originals in the application of this form of treatment. He points out, too, the aggravations from the use of the nosodes and compares them with the negative phase observed in administering the vaccines. That the specialist may obtain a first-hand acquaintance with Dr. Dewey's work we have abstracted from pages 108 to 113 verbatim the remedies with their indications recommended for affections of the ear and placed the list in the *Materia Medica* pages of the JOURNAL.

We trust the author in revising the book will not neglect to include *Lachesis* in his list of remedies for vertigo. We have repeatedly found it a helpful remedy. We note with pleasure that the author has seen fit to quote freely from our former editor, Dr. Moffat.

This book should find a ready sale.—ED.

A. MANUAL OF DISEASES OF THE NOSE, THROAT AND EAR. By E. B. GLEASON, M. D., Professor of Otology in the Medico-Chirurgical College, Philadelphia. *Third edition, thoroughly revised.* 12mo of 590 pages. 223 illustrations. Philadelphia and London: W. B. Saunders Company, 1914. Cloth, \$2.50, net.

The third edition of this Manual attests the demand for this excellent little work among students and physicians, both at home and abroad. This 3d edition is thoroughly up to date. The author uses excellent judgment in passing upon the relative merits of conservative and radical treatment, of accessory sinus disease and chronic mid-ear suppuration. The work contains many illustrations, including many taken from original specimens which the author has carefully prepared. While neglecting nothing that is new he has carefully garnered everything that is old, providing it has merit. This condensed work reflects the author, who is broad but concise, judiciously conservative yet liberal enough to present the views of others. The work deserves a place in every student's library, be he an under- or past-graduate. The work no doubt will continue to be as popular in the future as it has been in the past.—ED.

DISEASES OF THE NOSE AND THROAT. By JONATHAN WRIGHT, M. D., and HARMAN SMITH, M. D., of New York. 683 pages, 313 engravings and 14 plates. Published by Lea & Febiger, Philadelphia, 1914.

From a wide laboratory and clinical experience these authors have been able to produce one of the strongest and most evenly balanced books that has been written on this subject to date. They have avoided excessive details and the many tables which often make text books so dry, thus giving the contents more of the narrative construction, filling admirably the needs of the student and general practitioner as well as those of the specialist. Though the entire work is a most creditable one there are a number of departments in which it is especially strong; for example:

Histology, both normal and pathologic, is treated more fully and in a more interesting manner than usual.

The gross anatomy, normal and pathologic, which is so important, is presented in a clear and interesting style and is aided by numerous illustrations. Many of the illustrations are taken from those of the anatomists, Zucherhandl and Spalteholz.

The section on direct laryngoscopy, pharyngoscopy, esophagoscopy and gastroscopy is exceptional for a book of this type, both illustrative and descriptive of one of the newer and important branches.

The chapters on the Larynx deserve especial mention, as do those on Neoplasms of the respiratory tract and mouth, which are usually given but scant notice in this form of book. There are many illustrations of the microscopic and macroscopic appearance of these tumors.

Diseases and treatment of the Nasal Accessory Sinuses are put in good and comprehensible order, the surgical procedures being well illustrated. One oversight, however, was the failure to include Hajeh's modification of Killian's radical frontal sinus operation, which has for its advantages, 1. Better drainage, 2. quicker healing, and 3. a less marked depression in the supra-orbital region after healing.

The Etiology, Symptomatology, Diagnosis and Treatment in all the subjects has been given ample attention. The book contains a wealth of surgery, as it should, since the specialty is largely surgical. The book is concluded with a very convenient chapter on the surgery of the cleft palate.

Some examples of the weaker points noted are as follows: Page 50, the authors claim cocain should never be used on small children, and do not explain why it is contraindicated.

Page 341, they advise against local anæsthesia in children, including among other agents novocain, which we find quite safe in 1 per cent. solution, even in young children.

Too much stress is laid upon one method (Shuder) of tonsillectomy, which does not deserve all the praise given it. More should be said about a good plain method of removing the tonsils by means of surgical dissection, which is always applicable.

In reference to the removal of septal spurs and deflections of the septum, like other authors, too much attention is given the old methods of operating the septum which have been more or less supplanted by more recent Submucous Resection of varying degrees. Too much space is given to the use of obsolete nasal sprays and douches.

On the whole, however, the work deserves much credit and a place in the library of every progressive general practitioner and specialist.

G. J. ALEXANDER.

A specialist differs from a layman in that his ignorance covers less ground, and is, therefore, more concentrated. This enables him to conceal it better.—*Life*.

PUBLIC HEALTH BULLETIN.

PROTECT YOUR HOME AND THE PUBLIC HEALTH AGAINST RATS. Bulletin issued by the Department of Public Health and Charities, Bureau of Health, Philadelphia. Edition of 1914.

THE RAT A DANGEROUS AND DESTRUCTIVE PEST.—The rat, besides causing loss amounting to millions of dollars yearly by its destructive habits, is a menace to the public health.

It is known to be an active agent in the spread of infectious diseases, such as the deadly bubonic plague, or "black death" of history, of which the rat is the chief carrier.

Rats are subject to a leprosy-like disease, closely resembling the leprosy which attacks man. A number of other diseases are common among rats, the germs of which are believed to be capable of producing human diseases.

Rats are also the hosts of numerous internal parasites which are dangerous to man, among which is the *trichina* or flesh worm, which causes the disease known as *trichinosis*. It has been said by a reliable authority that "this disease (trichinosis) will probably never be eradicated from man until rats and mice have been practically eradicated."

Many external parasites, such as fleas, lice, mites and ticks, infest the hairy body of the rat.

In habiting as it does the sewer, and dirt dumps of all kinds, the rat is one of the filthiest of all animals which come in contact with man, and it destroys by pollution "ten times as much as it actually eats."

The rat common in this community is the brown or Norway rat (*Mus norvegicus*), which is said to be the worst mammal pest in the United States. It has nearly exterminated its less vigorous relative, the black house rat (*Mus rattus*), and has steadily increased in numbers until now the losses caused by its destructive habits are estimated to be more than the losses from all other injurious mammals combined.

TRAPPING THE RAT.—In the use of any kind of traps, it should be borne in mind that the rat is extremely cautious and is frightened by anything in the least out of the ordinary from his usual environment. Place the trap where the rat usually goes for food and change the surroundings as little as possible. In daylight, the rat's vision is somewhat defective, and he depends on his vibrissæ to guide him. For this reason rats avoid large open places and run along side walls or in narrow runways. Traps, therefore, should not be placed in open places, but in narrow runways or close to a wall.

The bait in the trap should always be adapted to the surroundings in which the trap is placed. It should be some odorous article of food which the rat is not in the habit of getting. For example, where grain is plentiful the best bait is meat or fresh vegetables. The bait should

be changed frequently. The following varieties of food make good bait: fish, fish heads, raw meat, cheese, smoked fish, fresh liver, cooked corned beef, fried bacon, apples, carrots and corn.

Before being set, the trap should be dipped in boiling water or smoked with a piece of burning newspaper to kill the smell of human hands or rats which have been previously caught in it.

POISONING THE RAT.—Poisoning is one of the most effective ways of destroying rats. Attempts at poisoning rats often fail because the rat is not deprived of other food. In the use of poisons, as in the use of traps, it must be remembered that the rat is a cunning and cautious animal, and it cannot be expected that he will eat poisoned food or be attracted by baits in traps when there is an abundance of other food available. On the other hand, a hungry rat falls an easy victim to poisoned food.

Poison for rats should never be placed in open places where it is accessible to children or domestic animals.

PLASTER OF PARIS.—Plaster of Paris is a cheap and safe poison to use in exterminating rats. It causes an unquenchable thirst when it is eaten, and when water is taken, causes death. Plaster of Paris should be mixed with an equal portion of corn meal and placed in a pile near the rat hole or near partitions. It is a good plan to place near the plaster of Paris a small pan of water, so that rats may drink immediately upon eating the compound.

ANIMAL ENEMIES OF RATS.—Natural enemies of the rat include dogs, cats, weasels, ferrets, badgers, skunks and minks. Of these, the dog and cat are best adapted for use in the city. Trained fox, Irish or Scotch terriers are the best rat catchers. Cats are of service as ratters in warehouses or granaries, but the ordinary domestic cat is too well fed to attack large rats.

Experts agree that the only way to get rid of rats permanently is to "build them out of existence." This is best done by use of concrete or cement in all construction work. Old cellars may be made rat-proof at comparatively small expense by the judicious use of cement. Rat holes may be permanently closed with a mixture of cement, sand and broken glass or sharp bits of crockery or stone. The principle is to allow no opening or crevice of any kind within which rats may nest or find protection from their natural enemies.

Plank sidewalks in back yards, the throwing of old boxes in the basement, or the piling of old lumber or refuse around will supply shelter for rats and furnish a safe retreat for breeding purposes, so that the rat nuisance will continue even though buildings are amply protected.

The concreting of basements and the removal of plank sidewalks and the replacement thereof with cement have the additional advantage of excluding dampness from the house and contributing to the general cleanliness and sanitary condition of the premises.

In dwellings infested with rats, wire screen compartments should be used for storing food. Flour, seeds, meats and the like should be kept in wire cages. Ice boxes and cold storage rooms should be made proof against rats by an outer covering of heavy wire netting of not more than half-inch mesh. Basement windows and other openings should be screened or raised above the ground.

NEWS NOTES.

Drs. Suffa, Wells, Muncy, Dowling, Bissell and Mackenzie of the O., O. and L. Society attended the meeting of the American Academy of Ophthalmology and Oto-Laryngology held in Boston Monday, Tuesday and Wednesday, October 20, 21 and 22.

Dr. Charles A. Bower, of Mitchell, S. Dak., spent September and October in Chicago attending special clinics in the eye and ear.

The Cook County Hospital, of Chicago, has recently equipped a new special department for eye service and clinics now being conducted there are of greater interest than ever before.

Dr. W. A. Fisher, of Chicago, who recently returned from a visit to India, is giving special courses at the Chicago Eye and Ear College upon the technique of the India operation for cataract.

Dr. John J. Smith, of San Francisco, spent the summer of 1914 in Chicago and New York, taking special courses upon the diseases of the eye, ear and throat, and will later open an office in San Francisco for the practice of these specialties. Dr. Smith was until recently surgeon for the Pacific Mail Steamship Company operating steamships between San Francisco and Hongkong.

Dr. Ed. Bywater, of Grant's Pass, Ore., has been attending eye and ear clinics in Chicago during the summer.

Dr. Frank Wieland, of Chicago, is medical director for Montgomery Ward & Company of that city, who furnish medical and surgical services including nursing and hospital expense, to all of their employes numbering more than nine thousand. Dr. Burton Haseltine has charge of the eye, ear, nose and throat cases.

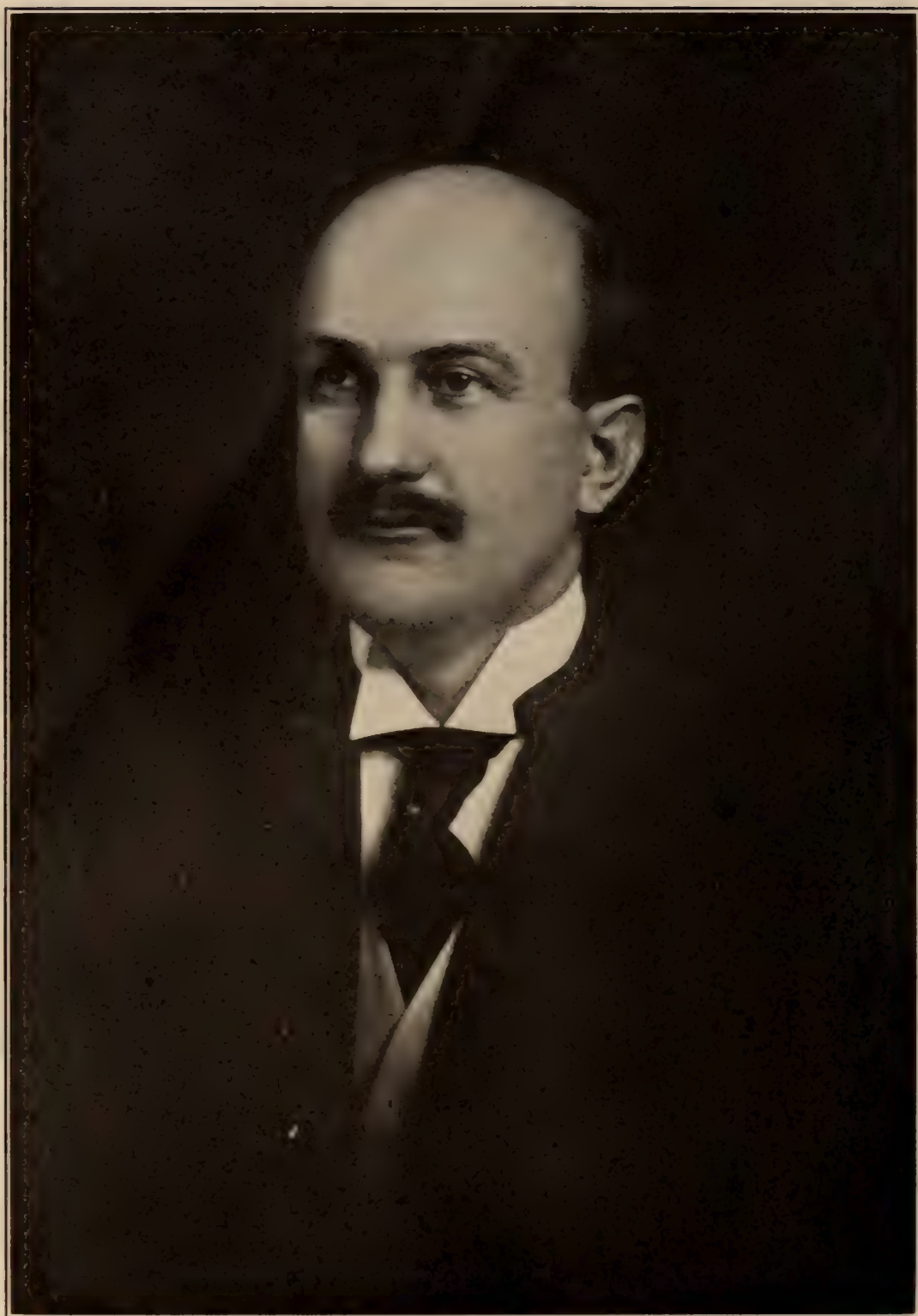
Dr. Philip Rice, of San Francisco, recently visited Chicago and was entertained at dinner by the faculty of Hahnemann Medical College. Dr. Rice is doing some highly interesting original work upon the re-proving of Homœopathic Materia Medica.

Dr. O. L. Smith, of Lexington, Ky., and Dr. George McBean, of Chicago, were two of the refugees from Europe who narrowly escaped the pitiful fate of the modern war correspondent.

Dr. Frederick Sidley, of Peoria, is now in charge of the eye, ear, nose and throat department of St. John's Hospital of that city.

The regular monthly meeting of the Chicago Laryngological Society on October 29th devoted a part of its program to a memorial service for the late Dr. Edwin Pynchon. The next meeting of the society will be held in connection with the St. Louis Otological Society when the St. Louis members will be entertained by the Chicago men.

I am told that the Institute meeting is to be held in Portland, and an announcement to this effect should be made, also it might be well to say that Cleveland is being considered for the next meeting of the O. and O. Society.



DEAN WENTWORTH MYERS, M. D.

ANN ARBOR, MICHIGAN.

President 1914-1915 of the American Homœopathic Ophthalmological,
Otological and Laryngological Society.

The Journal of Ophthalmology, Otology and Laryngology

Vol. XX

Lancaster, Pa., and Philadelphia, December, 1914

No. 12

PRESIDENT DEAN WENTWORTH MYERS, M. D.

Born North Plains township, Ionia county, Michigan, April 27, 1874.

Graduated, Muir, Michigan High School, 1893.

Taught in country and village schools 1893 to 1895.

Entered Homœopathic Medical College, University of Michigan, October 1, 1895, and was graduated 1899.

He was immediately appointed assistant to the Department of Ophthalmology, Otology, Rhinology and Laryngology in his Alma Mater and served in that capacity until July 1, 1903.

Removed to Grand Rapids, July 1, 1903, practiced specialty until the summer of 1907, when he was called to the University of Michigan, as Professor of Otology, Rhinology and Laryngology.

In 1908 appointed Professor of Ophthalmology, Otology, Rhinology and Laryngology, which position he now holds.

In addition to other monographs the following are among his most important writings:

Some Homœopathic Remedies in Diseases of the Eye," University Homœopathic Observer, January, 1910.

"Blood Pressure in Renal-Retinitis," University Homœopathic Observer, April, 1912.

"The Relationship Between Rhinology and Orthodontia," Homœopathic Eye, Ear and Throat Journal, February, 1909.

"Pseudo Diphtheritic Affections of the Nose and Throat," University Homœopathic Observer, January, 1909.

"Premedical Education," University Homœopathic Observer, July, 1913.

"Central Vision in Aphakic Eyes and a New Method for Preventing Prolapse of the Iris," Homœopathic Eye, Ear and Throat Journal, February, 1910.

"Simple Extraction of Cataract with Report of Sixty Cases," Homœopathic Eye, Ear and Throat Journal, December, 1910.

"Report of Sixty-Five Consecutive Cataract Cases," JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY AND LARYNGOLOGY, July, 1912.

"Cataract Extraction in Its Closed Capsule Without Iridectomy, Report of Cases," JOURNAL OF OPHTHALMOLOGY, OTOTOLOGY AND LARYNGOLOGY, February, 1914.

Member, ex-secretary and ex-president of the Michigan State Homœopathic Medical Society.

Joined the American Institute of Homœopathy in 1901.

Joined the American Homœopathic O., O. and L. Society in 1902.

Secretary of the American Homœopathic O., O. and L. Society, 1910 to 1914.

Elected President of the American Homœopathic O., O. and L. Society, July, 1914.

Married August 29, 1900, to Miss C. Louise Owen, of St. Albans, Vermont, who died May 4, 1904.

One daughter, Dorothy Louise, born June 18, 1901.

Dr. Myers is an indefatigable worker in his chosen field. He shines particularly as an eye surgeon. He was one of the first Americans to attempt the removal of the cataractous lens in its closed capsule, and has met with such success that he has come to adopt it as a routine measure. As a result of his successful efforts in the surgery of the eye and the wealth of material he has constantly at hand students have been prompt to seek him out at the University of Michigan for post-graduate studies in this particular field.

Dr. Myers has been active in Society work and has served the O., O. and L. as its faithful Secretary during its most flourishing period, from 1910 until 1914, when he was rewarded by being unanimously elected its President.

Dr. Myers is a big-hearted, honest and genial fellow. but above all he is modest

EDITORIAL.

ANNOUNCEMENT.

WE wish to announce that plans have been suggested and carefully worked out by a certain group of progressive men standing high in the profession to improve (if possible) the quality of the JOURNAL, to increase its circulation and enlarge its scope of general usefulness to its subscribers. These plans have been accepted with favor and approved by the Manager and Editor. They include, in part, the selection of experienced and capable men from scattered parts of the country who will act as associate editors, each for one month of the ensuing year. Each associate will try to outrival the others in the selection of material for his month's issue. The result should be materially beneficial to the JOURNAL. Thanks to the efforts of its former editors and managers, the JOURNAL has always borne an excellent reputation for quality. With the coöperation of the associate editors an attempt will be made to excel even the efforts of our predecessors.

Dr. Burton Haseltine will assume the part of Associate Editor for the month of January, 1915. He is going to give you the best that's in him. You who are to follow be prepared to equal or excel his efforts. Go to it, Gentlemen!

The Editor wishes to thank Dr. Haseltine and the other gentlemen who have so kindly volunteered to act as associate editors for the year of 1915.

We will be pleased to open a Department for Questions and Answers, where anyone who so desires may put a question on a subject pertaining to our Specialty and have it answered; that is, providing the subscribers desire it.

OTOLOGY AND GENERAL SURGERY

IN view of the recent advances made in the science of Otology, particularly in reference to the diagnosis of labyrinthine conditions, and, too, since the temporal bone is involved in 25 per cent. of the cases of basal fractures according to Bezold, we, as otologists, are especially fitted to aid the general surgeon, at least in a consulting

capacity, in this particular field of surgery. The importance of this subject was called to my attention recently through two experiences. In one case the fracture involved the inner ear and had it not been for a timely diagnosis and operation the patient probably would have died and his fellow laborer who had inflicted the blow would have been convicted of murder. The second case was that of a boy injured by being run over with a wagon. The fracture in his case involved the middle and not the inner ear. At the operation the general surgeon removed the stapes on "general principles," but not on any specific indications, with the result that the boy, at present, has but slight remains of hearing on that side. In a settlement in or out of court the owner of the team will have greater damages to pay than he would have, had the general surgeon not committed the blunder of removing the stapes.

THE AMERICAN INSTITUTE IN 1915.

THE annual meeting of a corporation is an occasion where the reports of the work done during the year are made, where its officers are elected and outlines of plans for the succeeding year's work are announced. Annual meetings are usually attended by only a small minority of the members of stockholders. As long as the business is managed wisely and dividends or returns accrue from their investments, the majority of the stockholders are content to read the published reports and leave the management to their Directors or Trustees. In theory this is wrong, as all members should have the same interest in the annual meeting and take part in its proceedings. The American Institute of Homœopathy is no exception to other corporations in this indifference to its annual meeting. This is in spite of the fact that unlike that of other concerns there is a personal benefit attached to attendance at the meetings as scientific papers are read and discussed that amply repay the individual.

The fact remains that but few avail themselves of the privilege of attendance and the great majority of the members which give but a passing thought to the place of meeting. They pay their dues and thus are stockholders in the American Institute of Homœopathy because it is the National Society of their school and will continue to do so as long as its reports show that it is doing all that its resources

will admit of to uphold and advance the interests of Homœopathy throughout the United States. They do not care whether the annual meeting is held in the same place or twice in succession in the East or West unless there is some special advantage to homœopathy in general that is a direct result of the place selected. In 1915 there is such a direct benefit to the cause that will result from the selection of Long Beach, a new seaside resort on Long Island, New York. The wealthy promoters of this high-class resort rightfully appreciating the advantage that would accrue to its future through the meeting of a representative body of physicians from all parts of the United States, propose to pay a considerable sum of money into the treasury of the Institute if its Trustees will select Long Beach for the 1915 meeting.

In view of this opportunity to add to its funds and thus be enabled to do effective work for the homœopathic cause, Long Beach would seem to be the indicated remedy for 1915.

The place itself is ideal—accommodations are first-class—the beach is unrivalled—the usual attractions of a high-class resort are offered minus the side-shows and amusement features of other places that might attract members away from the meetings. There would be nothing to prevent the complete enjoyment of the scientific sessions. When to the above is added the ease of access, as Long Beach is reached in forty minutes by electric trains from the Pennsylvania station in New York City, there is little or nothing left to be desired.

In addition to the substantial sum of money that will be paid to the Institute, the authorities of the place will entertain the Institute in most liberal style.

In view of all these advantages it would seem to be to the best interests of all its members that the next meeting of the Institute should occur at Long Beach, N. Y.

The advantages of Long Beach for the meeting of the O., O. and L. Society need no elucidation. As this resort is practically within the limits of Greater New York the clinical facilities would be unsurpassed. In fact, it would be, to all intents and purposes, a New York City meeting.

PROCEEDINGS OF THE TWENTY-SEVENTH ANNUAL
MEETING OF THE AMERICAN HOMŒOPATHIC OPHTHALMOLOGICAL, OTOLOGICAL AND LARYNGOLOGICAL SOCIETY.

HELD AT ATLANTIC CITY, N. J., JUNE 30, JULY 2, 3, 4, 1914.

FIRST DAY—MORNING SESSION.

The twenty-seventh annual convention was called to order at 10 A. M. by the first vice-president, Dr. E. J. George, in the absence of the president.

E. J. GEORGE: The first order of business is the adoption of the program.

C. H. HUBBARD: I move that the program, as printed, be adopted as the order of business of the meeting. Seconded. Carried.

E. J. GEORGE: As Committee on Attendance I will appoint J. B. S. King, C. A. Harkness. As Committee on Press I will appoint O. D. Stickney, J. R. McCleary, J. L. Moffat.

The Committee on Nominations will consist, according to our Constitution, of all the ex-presidents attending the meeting, to report at 10 Thursday morning.

DEAN W. MYERS: I move that papers whose authors are not present be read by title only. At the end of the session papers that have been read by title can be read at the pleasure of those present. Seconded.

JOHN L. MOFFAT: I would like to amend to that, unless objection be made, that papers whose authors are absent be read unless there is objection. My reason for offering this amendment is that a member may see a paper on the program and travel miles and miles to hear it and then if the author happens to be absent he is disappointed.

The amendment was seconded.

DEAN W. MYERS: I accept the amendment. Carried.

E. J. GEORGE: Our president is not with us, as yet. What is your pleasure with his address, which is the next order of business?

DEAN W. MYERS: I might say that I have received a telegram from Dr. Dowling saying that he was unavoidably detained, but that he would be here as soon as possible. I move that his address be deferred until he arrives. Seconded. Carried.

JOHN L. MOFFAT: I would like to ask whether this is a fitting time to bring up a matter of business I have in mind. I do not see on the program any provision made for the consideration of miscellaneous business. I should like to bring up an important matter about the JOURNAL early, because I want it to be heard and thought over and talked about so that everyone will be well acquainted with the facts so that intelligent action may be taken. If it is stated now those present could be thinking it over and better prepared to take action later.

DEAN W. MYERS: I move that Dr. Moffat be asked to make a statement about the facts and circumstances of the JOURNAL and give us his ideas of what the society should do about it. Seconded. Carried.

JOHN L. MOFFAT: As to the facts and recommendations that I make I would like everybody present to consider and to talk it over with those not present who may arrive later. Circumstances have arisen and the JOURNAL is in such a condition that it is absolutely necessary that some change should be made. Dr. Palmer is sole owner of the JOURNAL and his health is such that he can no longer carry it on. My own health is not good and I do not wish to be continued as editor any longer. I would like very much to be excused from getting out the August issue if that is possible. As a matter of sentiment I should hate to see the JOURNAL stop for it was started by the late Dr. G. S. Norton and was dear to his heart; it would be a pity to have his efforts come to nothing. As a matter of fact not sentiment, it would be a loss to homœopathy, it would even be a disgrace to homœopathy to allow it to stop. It fills a niche in our school that would be vacant for nothing else can fill it.

Dr. Palmer has been looking around and has been writing to different men about the matter in hopes of disposing of it. He was unable to find any one person who was willing to buy it, but he did find a number of men, members of this society, who were prepared to form a publishing club and continue it. My idea was that he should do as he wished with his own property, but it seemed to me that it would be better for this society to take it and own it outright and conduct it as its official organ, under the same name that it now has. To do that successfully the society would have to be incorporated so as to take the responsibility as a unit and prevent its shifting to separate members. The society could then appoint an editor or a corps of editors who would be responsible for its conduct. I notice

that other societies seem to have more life and interest in them when incorporated than before.

This society might find an increased interest and life in the same manner. The mere act of incorporation would cost about \$50.00, the exact amount varying with the laws of the state in which it was incorporated. The Board of Directors of the society would be the official and legal owners of the JOURNAL. It would be their function to appoint an editor and a business manager. The editor could then appoint such assistants as he needed. The business manager could do the same. I think that it would be advisable and profitable to pay the business manager a small salary.

If arrangements are made and this society takes over the JOURNAL not only would they have the satisfaction of owning and controlling their own organ, but I feel satisfied that they would make money out of it in the end. It is true that some money would have to be advanced at first. There are 47 members of this society who do not subscribe for it; they would probably come in if they were part owners of it. Official announcements made in the JOURNAL would then go to each and every member without the printing of circular letters by the president and secretary and the paying for extra postage. The money paid out every year for the printing and binding of our transactions would be saved; every member could bind his own transactions as is done now in the Institute of Homœopathy and we could do as it also does, have covers made for easy binding of the numbers at the end of the year. The money for extra printing, binding and distribution would thereby be saved.

Moreover it is reasonable to think that a society could get more subscribers than any individual could. The first year Dr. Palmer bought the JOURNAL he drew no profits, but every other year of his ownership he has made some money from it. I saw him on Sunday last and we went over the accounts.

I selected 1911 as a good year and 1913 as a bad year; in 1911 the income was \$1,311.00, of which \$720.00 came from advertisements and \$591.00 came from subscriptions and cards. The expenses were \$927.00 for printing, \$23.00 for illustrations, and \$38.00 for sundries, making a total of \$961.32. The subscriptions that were unpaid for the current year was about balanced by the back subscriptions that were paid up.

In 1913, which, as I said, was a notably bad year, the income was \$1,097.00 and the expenses were \$867.00. The advertisements brought in about \$525.00 and the cash for subscriptions and cards was about \$570.00, practically the same as the good year. This year the illustrations cost only \$13.00 and the sundries \$38.00. For the present year the advertising contracts will bring in \$540.00. I will go ahead with the July number, which has been delayed for this meeting because I wanted to know what kind of an editorial to write about the future of the JOURNAL. That will leave five months to finish up the current year.

The cause of what shrinkage there has been, has been Dr. Palmer's poor health. He has not been able to solicit any advertisements and the printing contract has been running over from year to year without any new definite contract being made. Dr. Palmer having bought and paid for the JOURNAL, and considering it an asset, thinks that he should sell it and get some money for it. In selling the JOURNAL he will sell the right to use the name and the good will. He considers that there are in the subscription list of 225 about 100 whom he considers his own personal property and who could not be obtained except by purchase. These are not members of this society, some are allopaths, some are general practitioners. As owners as a society you could keep these and increase them, I think.

All the subscriptions are in the form of personally signed vouchers, which have all the force of a legal contract. The suscriptions for the latter half of this year would be about \$250.00. For unpaid subscriptions and for personal cards there is about \$300.00 for one to three year contracts. He has signed contracts for these.

The usual edition is 550 copies. When Dr. Palmer bought the JOURNAL he cut down the mailing list 20 per cent., getting rid of a lot of padding. The post office rules and regulations allow only a few complimentary copies to be sent. There must be, too, a few extra copies for purposes of exchange and sample copies and so forth. I may state that the advertisers in the JOURNAL are all good with one exception; it is a perfectly reputable firm, but not in good condition just now. In nine years he has had to sue only three advertisers and one subscriber.

These are the data that Dr. Palmer gave me.

To me it seems that for the society to own and run the JOURNAL would be the best possible proposition for all concerned. In select-

ing an editor he should be a man of reputation and a name carrying weight. The editor should be in command and have general supervision. And I can tell you that it is not such a hard job. There are advantages in being an editor as well as disadvantages. I have not had to buy medical books for years. I do not have to buy them because they come for review. If I see a book that I would like to have I write to the publisher to send one for review and I seldom fail to get what I ask for. As editor I can get anyone I choose to review a book if I do not want to do it myself. Thus you save yourself the writing of it. I have acquired many valuable books in that way.

Moreover it is a liberal education to be an editor; in reading over the papers, as editor, you go into all branches of your specialty, that is an education. It keeps you up on all topics. It is also a responsibility. You have to get material for the issues. Sometimes you have to tell a man who has valuable ideas, but no time to write them out, "Well, scratch it down in the rough and I will fix it up for publication." In my experience I have had two papers that were too trashy for publication; there have been others that I would not have published willingly, but had to do it because it was the official organ of the society. I receive papers, not from members of this society, that are below our standard and I simply have to send them back. Every editor is liable to be blamed by an author because he cannot get a paper published right away. Do not be afraid of the job of an editor. We have good material in the society for the position of editorship, but they are busy men and are afraid of the work. It will make you well known; this JOURNAL goes to China, Mexico, South America and England. My name is known throughout the country and in other countries simply from the position of editor. So you see that there are compensations for the trials of editorship. A business manager who should be systematic and tactful is necessary. I think that such a man should be paid something. We have men in the society who could do excellent work in that line. It might be a man just out of college for that matter, as he does not need to be a well known man and the work would help such a man professionally. The purchase of the JOURNAL would mean that the society would have to assume 5/12ths of this year's contract for printing and will have to go on supplying the people who have paid subscriptions in advance.

At the start, a little money may have to be paid out. I do not know

exactly how much of an outlay would be necessary for the society to count on this year. The point is that it will be a paying affair to the society before long. I feel that it is a very hopeless thing to go around and ask men "will you be one of so many men to publish this JOURNAL and take on all the responsibilities and expenses?" The answer generally is "that is not good business." It would be difficult to get such a club up.

Dr. Palmer feels satisfied that it is a money making proposition; a club might make more money than an individual, but a society would make more money than a club; they will have a business manager living in a city who can call on the efforts, interest and activity of men in all parts of the country: men who are members of this society and hence part owners of the JOURNAL and interested in its success.

E. J. GEORGE: What Dr. Moffat has just said is true and I am in agreement with him in every respect: Dr. Palmer must dispose of his JOURNAL on account of his health; he has tried to place it in the hands of a club of specialists, but no one seems to be willing to go down into their pockets and assume the responsibility. Some time ago I suggested that this society was the appropriate owners of that JOURNAL which had been its official organ for so long a time. The fact that the society is the actual owner will have weight not only with subscribers, but also with advertisers, and will make for a large circulation and a more prosperous business. If it is true what Dr. Moffat said about the advisability of having a business manager. I have in mind just the man for the position. He has quite a good following and it would not be hard for him to fill the JOURNAL and to keep it full of good advertisements. I myself have tried to secure advertisements for the JOURNAL in times past and found it hard to do so on account of the small circulation and the individual ownership. If our society had owned it I think that I could have landed more business. Dr. Moffat has not said what Dr. Palmer is willing to take for the JOURNAL; he must be recompensed. What is the price?

JOHN L. MOFFAT: He feels that he should have \$700.00 for it, but not at once: he is perfectly willing to take it on the installment plan, say so much a year.

E. J. GEORGE: We would save \$200.00 a year on the printing, binding and distribution of our transactions. All the members would be more deeply interested in the JOURNAL and that alone would make it more interesting. I did not know before this that we were not in-

corporated. We should be incorporated whether we buy the JOURNAL or not. I am heartily in favor of purchasing the JOURNAL and running it and the first step would be the incorporation of the society.

JOHN L. MOFFAT: The first step is to say whether you are going to take the JOURNAL or not. The incorporation could be easily effected. I want to publish the July issue at once, as it is now late, and to say in it what the future of the JOURNAL is going to be. So far as the price is concerned it may seem a good price for the number of subscribers, but remember you are getting a journal which is not going to remain at that small number under such management. If I did not think that you were certainly going to increase the circulation I would not ask you to buy it. You would be able to get better prices for the advertising pages than we are able to get to-day. I do not want to predict that you are going to make a hundred dollars profit or a thousand dollars profit, but I am sure that you can make a profit. You will save, at least, \$200.00 a year and will have one hundred subscribers outside of the society. You do not have to pay the price down in cash, it may be made in yearly payments.

C. H. HUBBARD: How would it do to have a committee to consider this whole matter and to report at a later date?

E. J. GEORGE: \$700.00 seems to me a reasonable price, you could not start a new journal for that. I think that it ought to be discussed more by the members before a committee is appointed.

M. W. CONROW: Is there any surety that the printer will keep up his contract prices at the same level? I have had dealings with that very printer the last year and they raised their prices 100 per cent., and it seemed to me that they did poorer work than before. The price of printing is going up in every country.

JOHN L. MOFFAT: The printer's bill has advanced considerably, but some of the expense was due to the fact that writers want to change their articles after proof has been set up. That costs extra money. You do not have to stay with this printer except for the remaining 5/12ths of the year.

E. J. GEORGE: I will appoint on the committee to look into this matter Drs. Schenck, Shepard and Haseltine. To report on Thursday morning at the business session.

Paper No. 2, Ethmoiditis, by Irving Townsend.

Discussion by W. E. Reily, G. B. Rice, E. W. Beebe, M. W. Conrow, Dean W. Myers, J. L. Moffat and Irving Townsend.

Written discussion of Paper No. 1, read by Dr. T. L. Shearer.

Discussion by J. A. Campbell, J. L. Moffat.

Paper No. 3, Importance of Sinus Examination in Eye Disease, by Chas. L. Rumsey.

Discussion by J. M. Patterson. Written.

Discussion by Everett Jones. Written.

Discussion by R. S. Copeland, J. L. Moffat, J. A. Campbell, H. D. Schenck, C. B. Rice, Gilbert Palen and C. L. Rumsey.

Adjourned to 2 P. M.

SECOND SESSION—2 P. M.—JUNE 30TH.

No. 4, Symposium.

Paper a, Modern Management of Syphilis in Relation to the Eye, Ear, Nose and Throat, by A. C. Tenney.

Discussion by Burton Haseltine, W. H. Watters, D. W. Wells and A. C. Tenney.

Paper b, Ear, by J. F. V. Clay..

Discussion by J. L. Moffat, Burton Haseltine, D. W. Myers, G. W. Mackenzie, William McLean and A. C. Tenney.

Paper No. 5, The Sense of Smell and Its Perversions: Some Conclusions Formed on the Examination of 300 Employees of the Consolidated Gas Company, by R. S. Copeland.

Discussion by G. W. Mackenzie, C. L. Rumsey, J. L. Moffat and R. S. Copeland.

Adjourned to 8 P. M.

THIRD SESSION—8 P. M.—JUNE 30TH.

Paper No. 7, Strabismus, by E. J. George.

The arrival of the President, J. Ivimey Dowling, interrupted the proceedings for a few minutes.

Discussion by G. A. Suffa. Written.

Discussion by F. G. Ritchie. Written. .

J. L. Moffat moved that Paper No. 8, on a similar subject, be read before discussion. Seconded. Carried.

Paper No. 8, Musculo-Capsular Advancement With Report of Cases, by D. W. Wells and J. E. Sternberg.

Discussion by G. DeWayne Hallett. Written.

Discussion by G. A. Shepard, G. A. Suffa, E. J. George and D. W. Wells.

Paper No. 9, Unguentum Hydrargyri Oxidi Flavi in Eye Diseases With Report of Cases, by Henry L. Gowens, Jr.

Paper No. 10, *Platanus Occidentalis*—The Lancet of the Lids, by Chas. L. Hubbard.

Discussion by J. L. Moffat and D. W. Wells.

Paper No. 11, Eye Lotions and Washes, by C. A. Harkness.

Discussion by G. A. Suffa, M. W. Conrow, W. M. Muncy, I. O. Denman, J. L. Moffat, D. W. Wells, Burton Haseltine, D. A. Mac-lachlan, E. J. George, C. L. Hubbard, F. W. Ritchie, R. S. Copeland and C. A. Harkness.

Adjourned.

FOURTH SESSION—JULY 1ST—10 A. M.

President's Address, J. Ivimey Dowling.

Published in July number of JOURNAL.

Committee on President's Address, H. D. Schenck, J. L. Moffat and Burton Haseltine.

Paper No. 15, The Use of Heated Ether and Oxygen as an Anesthetic in Ear, Eye, Nose and Throat Work, by R. Franklin Hill.

Discussion by G. W. Mackenzie, J. L. Moffat, D. W. Myers, J. A. Campbell, R. F. Hill and I. O. Denman.

Paper No. 12, Conservation of Vision, by A. B. Norton.

Discussion by R. S. Copeland, I. O. Denman, A. E. Cross, F. W. Ritchie, W. A. Muncy and A. B. Norton.

Adjourned.

FIFTH SESSION—JULY 1ST—8 P. M.

Reports, I. O. Denman, M. D., chairman.

Dr. G. A. Shepard made a statement of the formation of and the functions of the Committee for the Encouragement of Original Research.

The Committee on Original Research for the coming year was announced as G. W. McDowell, chairman; W. H. Phillips and I. O. Denman.

(a) A New Ophthalmotrope, by G. A. Suffa.

Discussion by J. L. Moffat, I. O. Denman, A. E. Cross, C. L. Rumsey, J. V. F. Clay, G. A. Shepard and G. A. Suffa.

(b) Treatment of Congenital Amblyopia, by J. A. Campbell.

Discussion by E. J. George, J. L. Moffat, G. A. Shepard and J. A. Campbell.

(c) A New Form of Tenotomy Involving No Loss of Control and No Displacements, by Burton Haseltine.

Discussion by G. A. Suffa, J. L. Moffat, F. G. Ritchie and Burton Haseltine.

(d) Do the Tonometers of To-Day Record the True Intraocular Tension? Preliminary Report and a New Tonometer, by Wm. McLean.

Discussion by G. DeW. Hallett.

(e) Some Points in the Diagnosis and Treatment of Catarrhal Deafness, by I. O. Denman.

Discussion by J. A. Campbell, G. A. Suffa, G. W. Mackenzie, G. DeW. Hallett, J. I. Dowling, J. L. Moffat, G. B. Brice and I. O. Denman.

Adjourned.

SIXTH SESSION—JULY 2D, 1914—10 A. M.

1. Report of the Secretary, Dean W. Myers.

To the Officers and Members of the American Homœopathic Ophthalmological, Otological and Laryngological Society:

Your Secretary has very little of interest to report at this time. As usual, the business of this office has been transacted and the program is before you for your approval.

President Dowling has been an active president and it is largely due to his effort that the wealth of material before you for consideration has been obtained. Early in the winter President Dowling called a meeting of the officers and a number of the central western members, at Chicago, for consideration of the forthcoming program. The suggestions obtained at that time were fruitful of splendid results and we believe the program testifies to this fact.

There are some suggestions that might well be made at this time with reference to the program and its production each year. While the responsibility for a good program, to a certain extent, rests upon the officers, it is through the co-operation of the members that the best results are obtained. The only criticism that can be offered is the apparent lack of interest on the part of many of our members and on the part of some others the lack of appreciation, that in order to bring about a properly formed program, each individual part must be in the hands of the secretary early in the season. To this end, a resolution has been adopted in years gone by, "that all papers or abstracts thereof be in the hands of the secretary not later than April 1st, and that abstracts be published in the JOURNAL and reprints be presented at the meeting." This year it was absolutely impossible

to publish anything in the June issue since there was only one paper in this entire program in my hands before the first day of April. The second paper came in about the middle of April and the third paper about the first of May; no other papers have been received by the secretary. This is not reported in a complaining frame of mind, but merely as a suggestion for the guidance of the members in the preparation of future programs. So many changes had to be made in the program from time to time that it was utterly impossible to publish a perfect program in the June issue of our JOURNAL. A tentative program was published in the May issue and also in the Journal of the American Institute of Homœopathy. I would not, however, publish a second partial program in our official journal and so refrained from publishing any at all in the June issue.

The transactions of the last meeting were published in book form and sent out about the middle of April.

An error occurred in the publication of the Transactions of 1911 in that D. W. Weaver's name was omitted from those elected to membership in that year. Dr. Weaver was elected and paid his dues at that time and has paid his dues ever since and this matter is reported at this time that the society may take official action recognizing him as a member of the year 1911.

I have also, as secretary of this society, received invitations from San Francisco and Oakland, California, to hold our next meeting in these cities. These official invitations are herewith appended.

DEAN W. MYERS, M. D.,
Secretary.

Moved that the report of the Secretary be accepted. Seconded. Carried.

Resignation of W. E. Waddell.

2. Report of the Treasurer, A. E. Cross.

Report of the Treasurer of the American Homœopathic Ophthalmological, Otological and Laryngological Society, for the year ending June 29, 1914:

Receipts.

Reported balance cash on hand, Chicago, June, 1913	\$414.48
New members, initiation and dues	30.00
Dues, old members	555.00
	<hr/>
Total receipts	\$999.48

Expenditures.

Voucher No.	1.	J. B. S. King, services as stenographer	\$100.00
"	"	2. } Richard H. Street, expenses Chi-	
"	"	3. } cago meeting	52.26
"	"	4. Dean W. Myers, expenses of Sec., 1912-1913	34.15
"	"	5. W. B. Crombie, printing for Treasurer	3.50
"	"	6. University Press, storage	2.50
"	"	7. Achey & Gorrecht, printing pro- grams, pamphlets, etc.	20.45
"	"	8. } Chas. L. Clark, printing for	
"	"	9. } Treasurer	7.00
"	"	10. University Press, insurance	7.50
"	"	11. Achey & Gorrecht, Transactions, 1913, postage and express ..	206.67
"	"	12. Albert E. Cross, expenses of Treasurer	33.30
Total expenditures			\$467.33
Balance cash on hand			\$532.15

Assets.

Cash on hand	\$532.15
Dues in arrears	222.00
Total assets	\$754.15

Liabilities.

Expenses of Secretary for 1914	\$61.30
Journal of Ophth., Otol. and Laryn.	39.99
Expenses of the President	101.29
	25.00
	\$126.29
Total membership	193
Resignations to present	2
Reported deaths during the year	3
Members in arrears	52

Back dues owing	\$222.00
33 members owing each	3.00
16 members owing each	6.00
3 members owing each	9.00
Members in good standing, June, 1914	190.00

Respectfully submitted,

ALBERT E. CROSS,
Treasurer.

G. A. SUFFA,
IRA O. DENMAN,
Auditors.

The report of the Auditing Committee, I. O. Denman and G. A. Suffa, handed in at the same time.

Moved that the report of the Treasurer with that of the Auditing Committee be accepted. Seconded. Carried.

The resignation of W. Waddell, of Los Angeles, was accepted.

The following names were dropped from the list of members: H. J. Jewell, Nashua, N. H.; G. H. Pratt, Terre Haute, Ind.; L. J. Gibson, Vassar, Mich.; A. A. Eikonberry, Indiana.

The following resignations were accepted: H. W. Johnson, Knoxville, Tenn.; Thos. Parsons, Rochester, N. Y.

J. IVIMEY DOWLING: The necrologist did not bring in any report to this meeting. I think Dr. Boynton, of New York, died since the last meeting.

H. D. SCHENCK: I move that the deaths of members not yet reported on be published as the necrologist's report in the Transactions. Seconded. Carried.

J. IVIMEY DOWLING: I want to take this opportunity to compliment the officers who have worked with me in making preparations for this meeting. I had good men to work with me and the excellent program of this meeting is the result. Special thanks are due to the secretary and also to Drs. Haseltine and Denman for the active work they did on the program. I also personally thank the members for the honor they conferred upon me in electing me president and when I become an ordinary member of the society I hope that I shall never be lacking in interest and activity in its work.

5. Report of the Censors. Election of new members.

Report accepted and the individuals whose names were read were elected to membership subject to the fulfillment of the requirements

of the society: Wm. G. Shemeley, Jr., 7 Haddon Ave., New York City; Jos. V. F. Clay, Philadelphia; Henry Lyete Gowens, Jr., 1636 Walnut St., Philadelphia; Wm. M. Hillegas, Philadelphia; Douglas Macfarlan, 1805 Chestnut St., Philadelphia; Geo. James Alexander, 1831 Chestnut St., Philadelphia; Joseph F. Roe, 25 Main St., Binghamton, N. Y.

6. Report of committees.

(a) Election.

The Committee on Election of Officers, consisting of the ex-presidents in attendance, reported the following ticket:

President, Dean W. Myers, Ann Arbor, Michigan.

First Vice-President, Milton A. Barndt, Milwaukee, Wisconsin.

Second Vice-President, Fred. C. Sage, Waterloo, Iowa.

Secretary, Ira O. Denman, Toledo, Ohio.

Treasurer, William M. Muncy, Providence, R. I.

Necrologist, Richard H. Street, Chicago, Ill..

Board of Censors, M. W. Conrow, New York; William McLean, New York; Clinton C. Collier, Chicago; H. W. Woodward, Washington; H. B. Bryson, Pittsburgh.

It was moved that the ticket be elected as read. Seconded. Carried.

(b) Attendance..

Committee on Attendance reported the number present at the eight sessions, as follows: First Session, 38; Second Session, 41; Third Session, 45; Fourth Session, 43; Fifth Session, 43; Sixth Session, 30; Seventh Session, 46; Eighth Session, 30.

JOHN L. MOFFAT: I hoped that the report would give the proportion of members in attendance and their names. Cannot that be done?

J. IVIMEY DOWLING: It is not possible now.

D. W. MYERS: We have never had a registrar. Perhaps it would be a good idea.

H. D. SCHENCK: The Committee on Attendance used to take the list of members and check off those who were present. Then in the next Transactions the names of those who had attended would be distinguished by a star.

D. W. MYERS: The stars now indicate that those so distinguished are dead.

(d) President's Address, Drs. Schenck and Moffat.

Report of Committee on President's Address adopted.

(e) Committee on Press. (Stickney, Moffat and McCleary.)

JOHN L. MOFFAT: With the approval of the society I will send the following report to the public press:

Moved that the report of the Committee on Press be accepted. Seconded. Carried.

(f) Report of the Committee on the JOURNAL.

REPORT OF COMMITTEE ON JOURNAL.

Your Committee on JOURNAL have gone into the whole subject of the editing and business management of the JOURNAL, but feel they have insufficient data upon the latter to enable them to report accurately regarding financial standing of the JOURNAL at the present time. Your committee feel that the report submitted to the society must be verified and amplified before the society or any individual can take up seriously the ownership of this publication.

The financial ownership of the JOURNAL by this society presents some very serious problems which appear to the committee to be so serious as to possibly endanger the financial safety of the society, should it become the owner.

Another fact that has been brought to the attention of the committee is the fact that this society not being incorporated, but being a voluntary association, might be prohibited from using the mails. The Post Office Department has so ruled in some cases.

Your committee has learned that some investigations have been under way looking to the purchase of the JOURNAL by members of this society. Your committee, therefore, presents the following resolutions for your consideration:

Resolved, That the JOURNAL Committee be continued with power to secure the fullest information possible regarding the financial condition of the JOURNAL.

Resolved, That the committee be instructed to use its good offices in securing a purchaser for the JOURNAL from among our members.

Resolved, That the committee have full power to act for the society in this matter and to take such action as may be necessary to preserve the JOURNAL as the official organ of the society.

H. D. SCHENCK: Dr. Palmer is sole owner of the JOURNAL and at present is sick; he wants to sell his JOURNAL outright on account of his sickness. The report that was presented here by Dr. Moffat, accompanied by a statement of the finances, did not appeal to the members of the committee as being ample enough without verification for

it to recommend the society to take action looking towards purchase of it. We learned last night that there was a group of doctors in Chicago thinking of buying the JOURNAL; we learned this from Dr. Haseltine and I regret that he has gone home. That being the case I am not willing to state the names, but can use the fact. They feel that the business management of the JOURNAL could be well taken care of and they have plans about the editorship which would make it very satisfactory as the official organ of this society. It has been felt in the past that it was bad business to have an official organ without ownership or any kind of legal control. But we must remember that the ownership of anything means bookkeeping, solicitation of advertisements, supervision, the getting of suitable articles and editorship. It also means a bank account to pay bills with. I think that anyone who knows about the facts of medical journalism knows that they are not, as a rule, large money making propositions. The committee felt that it would not be a wise move for this society to become owners of the JOURNAL without a good deal of consideration; the society is not incorporated and the members would become financially liable for its debts. On the other hand, it has many attractive features, and there may be a way, if the Chicago syndicate do not go into it, for us to take it on. Two members of the committee live in New York, myself and Dr. Shepard, and one in Chicago, Dr. Haseltine. We felt that the first thing to do was to have a thorough understanding of all the facts and for that purpose we are going to have an expert go over the books and make a report to us. I think that the committee should be continued and given power to act.

R. S. COPELAND: I move that the report be adopted and the committee continued with power to act. Seconded. Carried.

H. D. SCHENCK: If the negotiation falls through in Chicago then the committee will have power to secure a business manager and make other necessary arrangements.

D. W. MYERS: This is a very important matter and I think that it should have thorough discussion this morning before it is dropped. The committee should be well acquainted with the wishes of the members before this convention departs for home and a year elapses before another meeting. I am in favor of the society becoming incorporated and owning its own journal and publishing it as its official organ. As to expense it is not much when we realize that we pay

every year \$200.00 for printing our Transactions; in addition to this we each of us pay the subscription for the JOURNAL. Why should we publish our papers twice and pay for the printing of them twice as we do when we pay our subscription for the JOURNAL and also our dues?

The purchase of the JOURNAL would be a saving to us of a clear \$200.00 or more, never less, and that money would go far towards making a success of the JOURNAL. We learn that it can be purchased for \$600.00 to \$700.00 on easy payments—on the installment plan by the year. If this is done we simply divert \$200.00 from the book and use it in the JOURNAL. I believe that with new business arrangements and the impetus that new management and society ownership will give it that it can be made, at least, sustaining. It would be, in all probability, a profit accruing business to the society. I am sorry that Dr. Haseltine is not here to state his plan of increasing the subscription list. He has talked it over with me a number of times and he assured me that the plan had proved a success in Chicago. By that plan each member of the society who is willing would take from five to ten subscriptions of the JOURNAL; these extra copies could be sent to your professional friends in the neighborhood. The man who receives it would regard it as a great compliment to him and would think of you when he has any cases for consultation. It is something that would pay you four-fold. I think that it is a moderate estimate to say that we can increase the list of subscribers to 700 in a short time, if our members would wake up and enter into the project with enthusiasm. As for a small number of men buying it I think you will have trouble in finding ten men to go into their pocket and get \$75.00. It will be a long time before the purchase can be made in that way. To me it seems a good proposition and one that will turn money into our treasury.

G. W. MACKENZIE: Some time ago Dr. Palmer sent out a circular letter asking stockholders to subscribe a certain amount; how many answers did he get?

JOHN L. MOFFAT: He got a kindly and prompt yes from Drs. Copeland, Mackenzie and one other; he received several letters, as from Drs. Bellows, Rice and some others asking for more details; others said no, but in a very kindly way. On the whole, he was not encouraged enough to think that there would be ten men who would go into it.

I saw him last Sunday; I was agreeably surprised to see that he had strength enough to write the data that I have already presented to the society and which the committee have in their hands at the present time. I am not sure that any expert will get any books to examine because I think that Dr. Palmer uses a card system exclusively. He is a very sick man. I was glad that he had the strength to write out the statement that I brought along with me. I do not want to go on with the work and he cannot go on with it. I did not want to get out the August issue.

I am trying to do the best I can for Dr. Palmer and Homœopathy and I have also some feeling of sentiment about Dr. Norton, who started the JOURNAL. I would rather not see the JOURNAL that he started come to an end.

H. D. SCHENCK: If we cannot get the private syndicate to buy, then we will get a business manager and go on with it.

JOHN L. MOFFAT: Does that mean assumption of ownership of the JOURNAL or merely friendly help?

H. D. SCHENCK: We had no idea of asking Dr. Palmer to continue.

JOHN L. MOFFAT: That I like very much, indeed; the society will take the JOURNAL if the western syndicate does not do it. If the expert examiner puts a value upon the property the committee is empowered to buy it. That is what I understand.

H. D. SCHENCK: The committee would have power to conclude the negotiations.

JOHN L. MOFFAT: And the society has given ample power to settle for the JOURNAL when all concerned agree upon terms. I am glad to hear that. Society ownership instead of private ownership will have a very favorable effect upon the subscription list and an increased number of advertisements will come in because of the interested members widely scattered over the country, backing up the business management.

R. S. COPELAND: I think that we are peculiarly fortunate in having such a capable committee to attend to the matter for us as Drs. Haseltine, Shepard and Schenck. I am satisfied to leave the matter in their hands to work out. We could not settle anything here in a year; we can safely let it be in the hands of this very capable committee.

H. B. WARE: A matter of so much importance as this should be

gone into slowly and carefully. We have had an experience in our state society that is instructive. We took over the Hahnemannian with the idea that we would increase our membership to 300 because instead of paying \$3.00 for the Hahnemannian and another \$3.00 for dues we could get the whole thing for \$3.00. We did increase our membership and the scheme promised well at first, but then, on the whole, the results have not been so beautiful as we expected. When a man writes a paper he likes to see it in print; dissatisfaction was created because there was unavoidable delay in the appearance of some papers. When a paper is laid over nearly a whole year it gets to be stale news to those who have attended the meeting. Some would hear an article read and would want to get hold of it in print soon after the meeting, but the delay would make annoyance and killed the interest in the paper. So much trouble was caused that the proposition is coming up this year that we shall break with the Hahnemannian and go back to the old way. We have lost the friendship of many good men because their papers were so late in coming out or did not come out at all. This has been the result, in the Pennsylvania Society, of the transactions being dropped and the Hahnemannian taken on as our official organ. If it is a question of life or death for the JOURNAL we should take it over but let us not be deceived into thinking that it is going to be a paying proposition. It makes it a little better that we are specialists because we are going out all the time among the profession and have a better chance of extending the circulation. I am simply advising caution; the committee should think over the matter carefully and go slow.

J. IVIMEY DOWLING: In regard to the expediency of buying the JOURNAL I am in favor of it. I have great respect for the JOURNAL and for the editors of it. Its weak spot is right here; it has not and it does not get proper recognition and the members feel this. There are men now in this room who send their articles to some other journal by preference because that journal is recognized in the eye books. Why should a man who is a member of this society not be recognized by the makers of eye books? Our JOURNAL does not reach the general practitioner nor does it reach any large body of specialists and we do not get the recognition which is our due. We are capable of getting recognition, but our stand for homœopathy handicaps us with the general profession. Many of you are members of the A. M. A. and some of the College of Surgeons. I put in an application

for membership in the College of Surgeons, but have not heard yet of the result. It makes no difference, to my mind, whether the JOURNAL is owned by individuals or by the society, the thing that we want is recognition. We have published more about argyrol in our JOURNAL than almost any other in the field, but that did not enable us to secure an advertisement from the makers of argyrol. There is something wrong when that is so. I am in thorough sympathy with the JOURNAL, although I think that I was one of those who replied to Dr. Palmer's circular with a "kindly no," but I would be glad to give my proportion or more towards the purchase of the JOURNAL for our official organ.

Moved that the report of the committee be accepted as read. Seconded. Carried.

REPORT OF NECROLOGIST, DR. R. H. STREET.

DR. FRANK HOPKINS BOYNTON was born at Lakeside, Wayne county, New York, on the 20th day of July, 1850,—the son of Lorenzo R. and Mary Hopkins Boynton. His ancestors were English, and the Boynton Manor, situated in Yorkshire, England, was a possession of the family. The first members of the family to come to America settled at Rowley, Massachusetts. From thence those in the Doctor's ancestral line went, first, to West Stockbridge, Massachusetts, then to Walworth, Wayne county, New York, and, finally, to Lakeside, the place of the Doctor's birth. His home was on the farm, and his youth was spent under the usual exigencies and vicissitudes of farm life in these days—hard work and limited opportunities. But the spirit of the man asserted itself, he would not be circumscribed. He longed for a field of wider opportunity than the farm afforded, but, as his father did not wholly approve of his leaving the farm, and could not readily give him the needed financial aid, the successful realization of his ambition depended almost wholly upon himself. His first schooling was at the local district school, a mile distant from the farm. But in the year 1868, at the age of eighteen years, the determination to secure a liberal education firmly possessed him and, laying hold of the opportunity therefor afforded by the opening of the State Normal School, at Brookport, in the adjoining county of Monroe, he entered that school, at which he remained two years. Then, as a means to further help himself, he took up teaching, and, during the autumn of 1870, and the winter of 1871, he taught the

district school at Williamson, also in Wayne county. The unfolding of his purpose—the translation from farm to professional life—was consistently maintained, and in 1871, the year of his majority, he decided on medicine, for which he always had a decided leaning, and that Homœopathy. In the autumn of that year, he began its study with Dr. A. M. Bennet, a distinguished Homœopathic physician of Rochester, New York. But the spirit and purpose that took hold of him would not rest until he had reached the place of widest opportunity and thus his final move was made to the unlimited field of New York City. In the fall of 1872, with one hundred dollars in his pocket, which he borrowed from a farmer neighbor, he came to New York, and entered the New York Homœopathic Medical College. Aiding himself by teaching at night, and in such other ways as he could, he was graduated, Doctor of Medicine, in 1874. From that time on he practiced his profession continually in this city, engaging at first in general practice; but since about 1885 confining himself exclusively to diseases of the eye and ear. For this specialty he early fitted himself, as, in 1875, the year after he took his degree in medicine, he took the course of instruction given in the New York Ophthalmic Hospital, and in the same year was appointed on its staff as an assistant surgeon, and received the degree, authorized to be conferred by that institution, of *oculi et auris chirurgus*. In 1876 he was appointed on the Faculty of Instruction. In 1881 he was made a full surgeon. In 1884 he was Secretary to the Faculty of Instruction, and in 1887 he became its president. In 1890 he was made Dean of the College, and in 1893 he was made Executive Surgeon in the Hospital. In 1892 he became a member of the Board of Directors, which office, beside that of Surgeon on the Hospital Staff, he held continuously to the day of his death, a period of more than twenty years. As a director, he was, for a very considerable time, chairman of the Executive Committee, a position he was reluctant to assume because of his place on the surgical staff, and he only took it from a sense of duty and because of his devotion to the Hospital, readily yielding the place, when others suited to the position would accept it and assume its responsibilities, and with that view in several instances, he stood aside.

His position in the profession, no less than his desire to serve most broadly, early brought him into connection with other Homœopathic Institutions. In 1878 he became actively and prominently con-

nected with the New York Medical College and Hospital for Women. He was there instructor in Ophthalmology, later professor and finally served as Clinical Professor in that chair. He also became President of its Faculty. His other appointments were with the East Side Dispensary, the Memorial Hospital, of Brooklyn; the Hahnemann Hospital, the Flower Hospital and the New York Homœopathic Medical College, in which, first, he was appointed Assistant Professor and afterwards full Professor of Ophthalmology. He was also a member of the New York State and New York County Medical Societies of the Homœopathic School of Medicine, the American Institute of Homœopathy, Homœopathic Medical Club, the Jahr Club and other associations of a medical character.

As a physician Doctor Boynton gave some time to original research or investigation, but his time was almost wholly occupied with patients in the practice of his profession. In that practice he employed the highest and most approved methods, and the experience thus obtained at first hand enabled him to make new and important generalization in the domain of medicine. Although frequently urged by his students, in the several institutions where he gave instruction and clinical demonstrations, and by others, to perpetuate his knowledge in the medical field of literatures, his deprecation of his own powers and the need he felt to devote them to the relief of patients gave no leisure for this purpose. He early saw, and noted as disastrous, the effect which a deranged vision, caused by a faulty action of the muscles of accommodation of the eye, had upon the nervous system, and thus upon the general health. The skill of his operations on the eye, as seen in his clinics, was marvelous, and a great source of delight to physicians, oculists and others who came from all over the country, and even from Europe in large degree with a purpose to see him operate. Moreover his great care and patience in the fitting of glasses, where such correction was needed, made his work in this line of the highest excellence. No tribute to his skill could be higher than that which came to him from Doctor Timothy F. Allen, the great authority in homœopathic medicine, and recognized leader in the treatment of the diseases of the eye, in that, when he gave up that practice he selected Doctor Boynton as the person best suited to be his own successor in it. In his practice Doctor Boynton was ever alert, industrious, and full of zeal in behalf of his patients. These attributes, with his sympathy, always clearly manifested, and the

readiness with which he adapted himself to people of every sort, enabled him easily to win the confidence of those who came to him and brought him a large practice which he maintained to the day of his death.

Of Doctor Boynton, as a man, apart from his professional life, it is not easy to speak within the limits of such a paper as this, for individual characteristics were many, and he was many sided. With all the serious purposes in life that profoundly possessed him, he had a playful side, and was fond of fun. He had a fondness for out-door life and sport, and in the days of his boyhood greatly enjoyed hunting and fishing, which the lake and streams abounding in the country where he lived brought readily within his reach. The spirit thus indicated he carried with him into the days of his intense activities, which came later in life and, notwithstanding his professional duties and the countless other duties which he assumed, through friendships or through natural desire, he always maintained some sort of out-door activity or sport. For many years he had some sort of a sailing vessel, fitted for sea going, which he used for diversion and exercise. He studied navigation and became proficient in that art. It was his delight to command and navigate the vessel, which for the time being was the means for the enjoyment of the vacations which he permitted himself. In this way he cruised over a considerable part of the Atlantic coast and became intimately familiar with the many ports and waterways which he visited, a knowledge which his accurate memory retained and reproduced at will. He was interested in gardening, and even for the farm and its activities, which in his youth he was so anxious to leave, he kept a fond place in his memory, and his last venture, the summer home at Mount Washington, was simply a place to busy himself with the out-door activities it furnished. He was fond of art, and, within his limitations, made it one of his fads, commingling easily with artists and finding time for membership in one of their clubs. He made a noteworthy collection of the works of modern artists which his keen judgment and taste in selecting made pleasurable.

In intercourse Doctor Boynton was genial. He met people easily and easily fitted the people he met. This came naturally from his wide interest in men and things. He had a way about him which enabled him easily to interest people in projects to which he was committed, especially in the line of his profession. This is a quality for

leadership, and in a sense he was a leader in the circles in which he moved. In a sense, too, his trend was toward liberalism, and he had a wide tolerance as to matters about which men's opinions are apt to be set. He greatly enjoyed being able to do a service for a friend, than which nothing gave him greater pleasure. This desire to serve seemed to be instinctive; in fact, he seemed to have an innate sympathy for every one whose life was a struggle. Naturally the friends to whom he was most deeply attached were those in sympathy with the things which he enjoyed, or for which he labored. The ease with which he could throw off his cares and responsibilities during times of relaxation was remarkable. No matter how absorbing the problems confronting him, he would give no sign of it in the circles of friendly intercourse. There with intimate friends he readily unbent, and the humor of incident or of story came from him in amplest measures. As a friend once said of him: "He was always busy about something, and there was never a moment of life that he did not enjoy." To this very incomplete summary of the man it simply will be added that, beside the club above referred to—the *Salmagundi*—he for a time was a member of the Lotus Club, belonged to the Masonic order and other clubs and associations.

Doctor Boynton was twice married, first, in 1879, to Emily Orinda Adams, whom he wooed and won at the time he taught in the district school, at Williamson, New York. This union, by her death in 1881, was short—lasting only about a year and a half. In 1885 he married Louisa O. Y. Lane, who lived to be the devoted companion of his active life. By his first union there was born to him a daughter, Emily Orinda Boynton, who became the wife of Lieutenant Clarence Lininger, of the United States Army, and by the second, a son, Mr. Frank L. Boynton, now a member of the Bar in this city. Besides his wife both of his children survive him.

Doctor Boynton's love for the New York Ophthalmic Hospital was deep and sincere. No one will ever know the anxious thoughts he had for it, the time and labor he gave to its service, the money, in countless ways, he expended in its behalf, in some effort to accomplish what he considered desirable for its benefit.

On every occasion that offered itself, he would seek to make for it a friend. The last day of service he was able to give in this life, he gave in large measure to it. On that memorable day, the first day of July last, depleted though he was by a recent illness, he remained

late at the hospital, and conducted an unusually large clinic. He left it, weary and worn, and went to his country home at Mount Washington, there to die. He passed away on the third day of July, 1913, in the full maturity of his powers and usefulness.

SIXTH SESSION—THURSDAY, 2D—10 A. M.

J. IVIMEY DOWLING: There is no unfinished business now; the next order of business will be new business. Is there any new business?

HERBERT D. SCHENCK: I think that it is due the society to make an explanation on behalf of the Committee of the American Institute, appointed at Denver, on the American College of Surgeons, to show you the present status of the members of this society.

The American College of Surgeons was formed in May, 1913, in the city of Washington. A convention of about 450 surgeons was called together by invitation of a committee who had been empowered at the New York meeting of the Clinical Congress of Surgeons of North America in November, 1912, to organize this American College of Surgeons. The committee appointed by the retiring president of the Congress, Dr. Edward Martin, of Philadelphia, visited every university city of this country, selecting the men of each community chosen by a committee of the latter to be founders of the American College of Surgeons. Four hundred and fifty men of the 500 men selected assembled at the meeting in Washington, held in May, 1913, and became the founders of the American College of Surgeons, as I said above. Among the 450 were five members of the homœopathic school, namely: Wm. B. Van Lennep, James C. Wood, Charles E. Kahlke, Wm. H. Bishop and Horace Packard.

These founders adopted the constitution presented by the committee and became governors as well as founders. At the first convocation, held last fall, in Chicago, a large number of new men were invited to become founders. Among those selected were the following homœopaths: Howard R. Chislett, George M. McBean and George W. Roberts.

The committee appointed by the American Institute to look after the interest of members of the Institute were James C. Wood, DeWitt G. Wilcox, Walter G. Crump, James W. Ward and myself. I was requested to represent this society. Dr. Martin says that the intention is that the American College of Surgeons shall be open

to every legally qualified surgeon who is accepted by the Board of Regents. The homœopaths would have had recognition on the Board of Regents, Dr. Martin says, if any of them had been present at the Washington meeting. They were all absent and, as a consequence, we received no recognition anywhere.

After Dr. James C. Wood was chosen to be a founder he entered into an active correspondence with Dr. Martin on behalf of the recognition of homœopathy. He carried this on from April to October, 1913. I had the privilege of hearing these letters and replies read, and it was, I assure you, a most illuminating correspondence and worthy of the highest commendation. We had it read at a meeting of our committee in Chicago last November. The letters took up the matter of the recognition of the Surgical and Gynæcological Society of the American Institute, the Obstetrical Society of the Institute and this organization, claiming that they should be recognized on the same basis as the similar subsidiary societies of the A. M. A. The Constitution and By-Laws of the American College of Surgeons provides that fifteen societies which are named are each to nominate three fellows annually for the 50 members of the Board of Governors. Next November 167 members who have been governors will be replaced by 50 fellows who are to serve three years, and the next year 167 others by 50 new nominees the next year, so that there will be 150 governors at the end of three years. Each 50 governors will have 30 of its members chosen by nominees of these 15 societies, while 20 will be chosen at large.

Dr. Wood's correspondence was most tactful, able and so convincing that he converted Dr. Franklin Martin to the plan of having homœopathic surgeons receive recognition.

I knew nothing about the American College of Surgeons or its formation until after the session of this society last year. Members of the Institute came to me on the journey to Denver and told me of the action that had been taken individually to have the Institute surgical societies have recognition upon the same basis as the old school societies.

The result of a prolonged discussion at the Institute meeting was the appointment of a committee of six, upon which I was asked to represent you. I was but little interested at first, but soon found that this committee stood for an important principle and I became one of the most ardent supporters of the proposition that our sur-

gical societies ought to have the same recognition as those of the old school.

We agreed on a plan of campaign at the meeting in Chicago in November; got into communication with the Institute men who were attending the Clinical Congress of the Surgeons of North America, who heard the correspondence of the chairman and endorsed our plans.

At first we met with strenuous opposition from those already elected; they said that we had no business to meddle with this matter; that we were butting in, and that we should be glad to get in as individuals and not bother about recognition. These sentiments, however, did not meet with the approval of the majority, and we convinced them that we were demanding only our rights as legal practitioners.

We went before the Regents and presented our claims for recognition on the Board of Governors and the Board of Regents. The members of the Board of Regents have written to Dr. Wood individually, unanimously agreeing to present at the next convocation in November, 1914, an amendment to the By-Laws, which will make possible the recognition of the three homœopathic surgical societies which I have named. Each of these societies will be empowered to nominate three fellows for the Board of Governors annually, of whom two will be chosen by the governors. That is, we will have 18 members out of 150, six of whom will be elected each year. In order to give the Board of Governors some choice in selecting the fellows or the governors, the rules require that three names shall be presented by each society from whom they are to select two.

As soon as we are sure that we would receive consideration and not have to fight for it individually, the committee took up the matter of selecting names from the two Institute societies and from this organization as well as from surgeons of merit outside, which were denied eligible under the By-Laws. I asked a committee from this society to help select the names from the O., O. and L. Society. To be eligible, candidates must be exclusive surgeons, if living in a city of 50,000 or upward. If living in a city of under 50,000 then fifty per cent. (50%) of their practice must be surgical. There are a great many of you who are entitled to election. The work is going on slowly; even one of the members of the Institute Committee was held up, and only received notice of his election since this meeting began although his application was put in last September.

As to details: five endorsers have to be named in the application. The five endorsers whom you select are sent a list of questions which they are to answer. The secretary of the regents then refers your application to the proper Committee on Credentials. If they report on you favorably then it goes on up to the Central Credentials Committee. If unfavorable then the Board of Regents may take up the matter for independent investigation.

There have been a good many delays. Dr. Ochsner, at the convocation in Philadelphia, gave three or four reasons why they occur.

First, the fault may be with your endorsers. The questions must be answered fully and completely. If they have failed to tell fully all they know about you, it causes delay. The papers, if not returned promptly, may be buried and it may be months before they get going again.

Second, it may be that the endorsers have hesitated to answer plainly: they have been too honest or too cautious; they may have said that they *thought* that you were all right or that they *felt reasonably sure* that you were all right. That kind of answer does not go. The Regents, in such a case, have to find out whether the endorser really knew and did not want to tell or whether he really didn't know.

Third. The identity of the Credentials Committee is known only to the Board of Regents; who they are is kept secret. Now the Board of Regents have given one day a week for a year to the business of the College, while the Credentials Committee have hardly spent one day a month. This was considered very unfair by the Regents, and to show apathy and lack of proper spirit by these committees. However, it is responsible for some of the delay.

Fourth. Some men who made application for membership were returned as unknown. Some seemed to dread investigation by the Board of Regents, who sent out an investigator who, in one case, for instance, found a man who had graduated from high class literary and medical colleges running a well equipped private hospital and doing the best class of work. Because he was not known to the Committee on Credentials he had been turned down.

These are some of the causes given by the Regents for the delay in getting applications acted upon. I have been asked to endorse some twelve or fifteen applications. I took pains to keep track of

the names of the men whom I endorsed. I have received only eleven back, and of these, seven came back since I have been at this meeting. They were sent in last January. They did not come back until all the endorsers and vouchers have been gone over by the Regents. I feel reasonably certain that ten or twelve of you have had your applications examined by the Board of Regents.

I want to state, before I stop, that 1,059 had fellowships conferred upon them in Chicago in November, 1913. In Philadelphia, last month, 1,055 were conferred. They expect to have, at least, 3,000 members before next November. After that an applicant will have to operate before a committee and submit a list of operations before he can get in. It is more skill and manual dexterity that qualifies a man for membership than abstract knowledge.

The Regents have decided that the home of the organization shall be in Washington. The dues are \$5.00 annually, and those who are elected to fellowship pay \$25.00 initiation. The cap and gown costs \$13.50. The gowns are dark blue with scarlet lapels and a mortar board with a scarlet tassel.

They also have plans for an income of \$35,000.00 annually and have started an endowment fund. They propose to establish a library, to own a building and to have a director and five paid investigators. They asked each man to subscribe \$500.00 at the convocation.

R. S. COPELAND moved that the statement be received with special thanks. Seconded. Carried.

G. W. MACKENZIE: Of what value will it be to a man to belong to it?

HERBERT D. SCHENCK: To the present generation none, to the coming generations much; it will raise the standard of surgery.

G. W. MACKENZIE: Have they any legal standing?

HERBERT D. SCHENCK: They are incorporated in Illinois; they have no more legal standing than any other corporation.

G. W. MACKENZIE: Are they going to raise legal and other disqualifications against those who are not members?

HERBERT D. SCHENCK: The A. M. A. has tried to do that, but not the American College of Surgeons.

ROYAL S. COPELAND: I think that this society owes a debt of gratitude to Dr. Schenck for the tremendous amount of work that he has done in this connection. I move that we receive his report

with special thanks for the work that he has done. Seconded. Carried.

HERBERT D. SCHENCK: I want to present an amendment to Article 5 in the By-Laws. It relates to qualifications for membership in this society. I will go over the rules seriatim for your approval or the reverse.

D. W. MYERS: These recommendations have been gone over very carefully by our ex-presidents, men whom we all trust. I think that we can save time by dispensing with the reading seriatim.

AMENDMENT TO ARTICLE V OF THE BY-LAWS.

ARTICLE V. *Section 1.*—Any reputable physician may be elected to membership in this Society who shall have fulfilled one of the following requirements or other qualifications judged by the Board of Censors to be an equivalent:

(a) Not less than one year of service subsequent to graduation as an interne in a reputable hospital or infirmary devoted to the treatment of diseases of the eye, ear, nose or throat.

(b) Not less than six months of post-graduate study in these specialties in a reputable teaching institution.

(c) Not less than one year of association in private practice with a reputable practitioner of these specialties. The candidate shall have the endorsement of two reputable physicians from the locality in which he resides.

(d) Not less than three years of independent practice in one or more of these specialties, and the submission of a report of fifty consecutive medical or surgical cases which shall include histories, treatment and final results. These reports are to be subject to the approval of the Board of Censors.

(e) Evidence of original investigation of a worthy character upon a subject related to these specialties. This material is to be presented in a form suitable for publication by the Society in its transactions.

(f) In addition to one of the above each candidate shall be required to submit a paper on some subject relating to his specialty to the Board of Censors and, if accepted by the Board, shall be read before the Society by the candidate at the next meeting.

F. G. RITCHIE: I think that one of those requirements is not full enough. There is no provision made for one who has attended the

staff of a surgeon at a hospital. Many who have not been internes may have been associated with the attending staff.

G. DEW. HALLETT: Candidates must conform with any one of these requirements. He does not have to do all of them.

It was then moved that the amendments be passed as read. Seconded. Carried.

Moved that Drs. George B. Rice, Royal S. Copeland and Burton Haseltine be nominees from this society for the Board of Governors of the American College of Surgeons. Seconded. Carried.

Adjourned.

H. D. SCHENCK presented amendment to Article 5 in the By-Laws and moved that these amendments, as read, be adopted. Seconded. Carried by a two-thirds vote.

Moved that the names of G. B. Rice, R. S. Copeland and Burton Haseltine be nominated as candidates for the house of Governors in the American College of Surgeons (of whom two can be elected). Carried.

Adjourned.

SEVENTH SESSION—JULY 2D—2:30 P. M.

Paper No. 17, Observations as to the Effects of Telephone Operating Upon the Ears, by Leroy Thompson.

Discussion by J. I. Dowling.

Paper No. 19, Hypophysial Tumors, by Frank O. Nagle.

Discussion by J. L. Moffat, G. J. Alexander and F. O. Nagle.

No. 20, Necrosis of the Jaw with Report of a Case, by H. S. Weaver.

Discussion by I. O. Denman and H. S. Weaver.

No. 21, Acute Leukemia, by G. J. Alexander.

Discussion by H. D. Schenck, H. Foster and G. J. Alexander.

J. L. Moffat moved that the society pay the expenses of the Journal Committee. Seconded. Carried.

Speech by Dean W. Myers, President-elect.

Adjourned.

EIGHTH SESSION—JULY 2D—8 P. M.

Paper No. 26, A Recent Series of Mastoid Cases, by Gilbert Palen.

Discussion by J. V. F. Clay, H. P. Bellows, J. L. Moffat, G. B. Rice, H. D. Schenck, G. W. Mackenzie, H. S. Weaver and G. J. Alexander.

Paper No. 22, Pneumo-Massage in the Middle Ear, by H. D. Schenck.

Discussion by G. W. Mackenzie, E. H. Linnell, J. L. Moffat, D. W. Myers and H. D. Schenck.

Paper No. 23, Anomalies of Hearing, by H. P. Bellows.

Discussion by J. A. Campbell and G. W. Mackenzie.

Paper No. 24, Some Ear Cases, by E. H. Linnell.

No discussion.

Paper No. 25, A Consideration of the Neuroses of the Nose and Throat, by G. B. Rice.

No discussion.

J. L. Moffat moved a resolution about the Bell Telephone Company. Seconded. Carried.

D. W. Myers moved thanks to Hotel Dennis.

Adjourned sine die.

Why Not an Exchange of Medical Teachers? For several years some of our universities have been exchanging professors for certain periods with universities abroad. Students in such universities have the opportunity not only of meeting and getting acquainted with foreign university teachers, but also of obtaining instruction under the methods and with the interpretations used abroad. Not only the student but the university also is undoubtedly benefited by this exchange of teachers. Would it not be worth while for medical schools to consider the adoption of a similar procedure? Medical teachers and investigators from Europe are frequent visitors in this country. The arrangement would result in closer relationships between the medical teachers of this and other countries that would undoubtedly be mutually beneficial. Precedents have been set by the School of Medicine of Leland Stanford University, by Johns Hopkins, and by Harvard. Pending the settlement of the war, benefit would result from a similar exchange system between the high grade medical schools at home. Such an exchange could be easily arranged. This would bring teachers of the different medical schools into closer sympathy, and improved methods of teaching would be more widely adopted and faulty methods corrected. Incidentally, but perhaps of most importance, the students of all medical schools participating in such an exchange would obtain a more uniformly thorough training in the latest and most improved methods of investigation, of diagnosis and of treatment.—*J. A. M. A.*, Oct. 24, 1914.

SINUS DISEASE AFFECTING THE EYE.*

CHARLES LESLIE RUMSEY, A. M., M. D.,

Baltimore, Md.

THE question of sinusitis as a primary cause of ocular and orbital changes was shown clearly by Panas in 1890. Each day has added some new discovery.

Although the function of the accessory sinuses is somewhat obscure, it is supposed that they contribute to the resonance of the voice, diminish shock to the nerve centres of the brain and afford lightness to the skull. The accessory sinuses are four in number:

The maxillary sinus or Antrum of Highmore is the largest and is situated in the superior maxillary bone. It has for its roof the floor of the orbit, for its lateral wall the external wall of the nose, and for its floor the roof of the mouth. It empties into the nasal chamber into the "Ostium maxillare," which is the lowest of the openings of the "hiatus semilunaris" and is overlapped by the middle turbinate. The sinus is not constant in size or in shape..

The sphenoidal sinus is the next in size. It is situated in the body of the sphenoid and has its outlet in the superior meatus. It is separated from its opposite sinus by a thin lamella of bone called the sphenoidal septum. Like the nasal septum, it frequently divides the sinuses unequally and sometimes is wanting.

The frontal sinus is absent in childhood and is comparatively small in woren. It is situated between the tables of the frontal bone. It communicates with the middle meatus by the infundibulum. The roof of the orbit forms the floor of the frontal sinus. These sinuses vary greatly in size.

The ethmoidal cells, classified as anterior and posterior, are a series of small cavities surrounded by protective lamella bone, and situated in the body of the ethmoid bone. The anterior cells open into the middle meatus and the posterior cells into the superior meatus.

Clinically it is of great importance to know the close proximity of the openings of the anterior ethmoidal cells, the frontal sinus and the antrum of Highmore, as an infection of either the frontal sinus

*Read before the O., O. and L. Society at Atlantic City, June, 1914.

or the ethmoidal cells is likely to result in an infection of the antrum by gravitation of the infective secretion.

The frontal sinus—the ethmoidal cells—the sphenoidal sinus and the maxillary antrum are often the seat of disease which subsequently extends to the orbit. The accurate diagnosis of the sinus disease associated with intra-orbital lesions is essential. Since the advent of x-ray work, every doubtful case should have an x-ray picture. Transillumination cannot be successfully done unless in a very dark room. It is not my experience that transillumination is an infallible test, while the x-ray work has always proved most satisfactory. Coakley has deduced the following conclusions from the application of skiagraphy in sinus cases:

1. Frontal sinus:

- a. Certainty of demonstrating the absence or presence of a sinus before operation;
- b. Accurate determination of the size of the sinus;
- c. Situation of septum between the sinuses;
- d. Location of partial septa;
- e. Probable presence of an orbital recess;
- f. Disease may be determined by an excellent negative. In the negative the diseased area is of a milky color, while the uninvolved sinus will appear dark. When, however, the photograph is made from the negative plate, the opposite will occur, so that the involved side appears dark and the healthy air spaces white.
- g. From information obtained from what has been stated, determining in advance the best operative method.

2. Ethmoid cells:

- a. Easy demonstration of the width of the ethmoidal cell area, that is, the space between the nose and the orbit;
- b. The relation of the ethmoidal cells and the frontal sinus.

3. Maxillary sinus:

- a. It is feasible to determine presence of foreign body, as polypi.

4. Sphenoidal sinus:

- a. Determination of the size of the sinus;
- b. Inadvisability of relying upon the x-ray as a positive diagnostic agent.

There are five types of accessory sinus disease affecting the ocular apparatus: 1. Acute or chronic sinusitis with external manifestations, as orbital cellulitis, abscess, tumor or oedema of the eyelids. 2.

Sinusitis without external signs, but accompanied by optic neuritis, retinal disease, scotomata, visual field defects or ocular muscular paralysis. 3. Sinusitis as a possible cause of glaucoma, iritis, keratitis, uveitis. 4. Unilateral pain or headache due to rarefaction of the air within the frontal sinus or ethmoid cells. 5. Mucocoeles of sinuses rarely act as an etiological factor to eye complications. Varieties of visual field anomalies can be ascribed to sinusitis, but the most valuable findings are central or pericentral scotomata and enlargement of the blind spot.

As an etiological factor in neuritis or optic atrophy, empyema of the ethmoid and sphenoid are more frequently found associated with diseases of the optic nerve. Since the posterior ethmoid cells and the sphenoidal sinus are separated from the optic canal by very thin bony partitions, it is easy to explain the influence of these sinuses on the optic nerve. When every possible cause of neuritis has been eliminated and when there is no local or intranasal evidence of the existence of empyema, one is justified to operate upon the sphenoidal and post-ethmoidal sinuses.

Among the growths, unless it be true osteomata, the frontal sinus is rarely the seat of a tumor primarily. The predisposing cause would be an abnormal embryonic condition of the bone cells. This would indicate operative removal. Tumors of the ethmoid and sphenoid are usually of the sarcomatous or myxosarcomatous type. In the antrum there are polypi growths. Since the advent of the x-ray, these growths can be diagnosed early and need not progress sufficiently to encroach themselves upon the orbit, showing by the ophthalmoscope neuroretinitis and atrophy of the optic nerve with strabismus, exophthalmos and limitations of the motility of the eye. I advise against operation on malignant neoplasms of these sinuses, owing to their early recurrences and meningitis often supervening.

Abscess of the frontal sinus is usually an affection of adult life and does not occur in childhood, as these sinuses are not developed at this period of life. In acute empyema there is always severe pain over the eye-brow. An empyema can continue for an indefinite time without creating sufficient disturbance to make the patient consent to an operation, but the evacuation of pus into the orbit, or any external evidence that pus has broken through the bony walls, demands operation. When the frontal sinus is distended by retained fluids it yields first in the direction of least resistance. Consequently, the first swell-

ing is at the expense of the orbital cavity and at the root of the nose. In most instances the swelling is unilateral, since disease of both sinuses is extremely rare. When both frontal sinuses are implicated, it is found in those individuals in whom the septum separating the two sinuses is deficient. In acute empyema there is always severe pain over the eyebrow. In chronic cases, where the nose is not occluded by deflection or hypertrophy, mucus can be seen at the very uppermost end of the lower lip of the hiatus semilunaris, rather anterior to the bulla ethmoidalis. In a case under my care there was a distinct swelling above the inner angular process and lachrymal sac. Patient refused operation, and when late seen the swelling was over the lower surface of the supra-orbital margin and inner wall of the orbit, showing that the disease had extended to the ethmoid cells, which was confirmed by the operation. If the swelling of the mucous lining closes the frontonasal canal, a violent supra-orbital pain is produced, accompanied by injection of the conjunctiva with photophobia and lachrymation, which is caused by a sympathetic inflammation of the ophthalmic branch of the trifacial nerve. When a mucocele becomes an abscess there must have been a second element of an infectious nature. In pus cases, the only successful method is opening the frontal sinus at the lowest anterior border by a small trephine, to enlarge the opening by gouge and mallet. The incision can be extended to the other frontal sinus if it is also infected. The wound is closed sufficiently to pass a small calibre perforated rubber drain tube extending into the inferior nasal meatus, by which to irrigate the sinus until discharge ceases.

The cells of the ethmoid form a pneumatic labyrinth. The ethmoid anteriorly is connected with the lachrymal bone and posteriorly with the orbital portion of the palate bone. The post-ethmoid cells and sphenoid antrum open into the superior nasal meatus. When pain is deep-seated around the orbit and frontal region, one may think of the involvement of the ethmoid. In caries of the lamina papyracea, the subjective symptoms are dull pain increased by pressure in the neighborhood of the diseased bone and vertigo. Redness of the lids at the inner canthus may be present. A hard tumor may be felt at the inner canthus and later may occur fluctuation, strabismus, diplopia, exophthalmos and limitations of the motility of the eye and impaired vision. Pus found in the region of the middle turbinate must come from the post-ethmoidal cells. In all cases of empyema, the

cells should be opened, the pus evacuated and all fragments of carious bone should be removed. There are four routes by which the ethmoidal sinuses may be reached and drained:

- a. Through the intranasal route;
- b. The external route throughout the orbits;
- c. Through the maxillary sinus;
- d. Through the frontal sinus.

In the intranasal route, remove the major portion of the middle turbinate by turbinectomy scissors and snare; the bulla or outer walls should be broken down with a curette or Grünwald forceps and all the detritus and contained material thoroughly curetted away, converting the space into one large cavity. Hydrogen peroxide or irrigation should not be employed after this operation, as it invites meningitis by forcing the infective matter along the venous paths or lymph spaces. It is advised to use gauze moistened in a hot normal salt solution for cleansing the cavity. If the swelling or fistula has presented in the orbit, it should be freely incised through the conjunctiva. It offers a better opportunity for entering the sphenoid, if involved, and the disease is more directly under the operator's observation.

It might be well to add, dacryocystitis may have a nasal origin, particularly in diseases of the ethmoid, that prevents the recovery of the disease of the lachrymal sac. The writer effected a cure with a fistula of long standing by removal of empyema of ethmoid with necrosis. It might be helpful to have an x-ray picture with sound lying in the nasal duct. The presence of streptococci with pneumococci in the sinus pus in orbital inflammations, indicates the necessity for early operative intervention, as these cases are apt to extend rapidly and result fatally.

When pain is located in the temporal or occipital region, it may indicate involvement of the sphenoidal sinus. Central scotomata appear to be an early symptom of an extension of suppuration from the sphenoid sinus to the eyeball (possibly due to direct action of toxins). Pain that closely simulates tic douloureux or that in trigeminal neuralgia when accompanied by pus in the posterior nares, is also symptomatic of sphenoid disease. When the sphenoid sinus is involved there may be a marked somnolence. There is usually conjunctivitis and œdema of the lids, and pressure on the optic nerve causes neuritis and blindness. This can be diagnosed by the oph-

thalmoscope. The patient passes sleepless nights accompanied with fever, sweats and chills. Unless the pressure is relieved, the contained pus will break through the sinus wall at the point of least resistance, which is at the site of the ostium, or through the roof, causing fatal suppurative meningitis. A long nasal speculum is inserted between the middle turbinate and the septum and a prolonged application of cocain is made. By separating the blades of the nasal speculum, the passage is dilated so that the instrument can be slipped further in and so by alternating movements of expansion and advance, the front wall of the sinus is brought into view. During this procedure, the middle turbinate is crowded outwards, and no alarm need be caused if a slight crackling sound shows that its attachment has been fractured. The mouth of the sphenoidal sinus is often indicated by the muco-pus oozing from it. The front wall should not be broken through until the presence and size of the sinus has been demonstrated by means of a radiograph. When this has been ascertained, palpation with a sinus forceps will generally detect a thin spot where firm pressure is sufficient to penetrate into the cavity. The opening is then enlarged. The cutting away should then be downward and inward. In this sinus, as others, it has frequently been seen in literature that hemorrhage is a complication which may come from a branch of the internal maxillary artery or even from the cavernous sinus. It has even been noted that a ligature of the carotid was necessary in these cases. This has not been the experience of the writer, as he has never met with hemorrhage that was not stopped immediately by packing with a one inch tape dipped in adrenalin. The dry treatment is instituted, using iodoform, argyrol (25 per cent.), nitrate of silver (2 per cent.), and packing into the cavity. The other end of the strip is left just within the vestibule of the nose. Other methods of approaching the sphenoid sinus are described in text books, while the technique just described has not been seen in text books, but acquired from Hajek.

The most common source of purulent inflammation in the antrum is in disease of the teeth. While empyema of the maxillary sinus is most frequent, optical complications are less frequent. Owing to the ostium maxillare being the lowest of the three openings, the antrum may become infected easily from the other sinuses. Tenderness may be elicited by pressure over the canine fossa and the point of exit of the infra-orbital nerve. Lachrymation and photophobia

with congestion of conjunctiva are the usual eye symptoms. The best method of operating is that suggested by Luc, over the canine fossa, which is given in detail in any text book, and best facilitates the emptying and curetting the sinus. Drainage can be made through the vestibule of the nose. It must be remembered that the periosteum and mucous membrane of the bones are very thin and frequently the probe feels as if it were on bare or exposed bone when it is in a fairly normal state. The probe will convey an idea of the diseased state of the membrane, but it is frequently deceptive concerning the bone.

The diagnosis is made on the objective symptom of pus and the exact location of the source of pus is necessary to determine the cavity affected. Pus in the superior meatus means one of three things: Empyema of the post-ethmoidal cells or of the sphenoid sinus, or subperiosteal bone disease. Posterior rhinoscopic examinations are essential to demonstrate muco-purulent secretions in the superior meatus. Pus emerging below the middle turbinate, as the hiatus, means empyema of the anterior ethmoidal cells or of the frontal sinus or of the antrum.

In conclusion, I will say that in those cases where you have carefully refracted the eyes and the patient gets no relief, when a case calls for frequent changes of glasses, when unsuccessfully treated by other physicians,—shrink the nasal mucous membrane and you may find some muco-pus, which should always be examined. The method of introducing argyrol tampons is most satisfactory, as suggested by Dr. Dowling. With mild antiseptic applications, these cases are relieved in their early stages.

DISCUSSION.

J. M. PATTERSON: The subject seems to have been thoroughly reviewed by Dr. Rumsey. His suggestion to have a skiagraph in all suspected cases is a good one. In fact, there are many cases in which we would be at sea were it not for the x-ray, as practically no reliance can be placed upon transillumination.

In a skiagraph I find it just as important to have the picture properly interpreted as to have it taken. From my observation and experience it is difficult to find the expert who can correctly interpret the pictures of the x-ray, especially the pictures of the sinuses and, as the Doctor says, it is often inadvisable to rely upon the skiagraph in diseases of the sphenoidal sinus.

The relation of sinus infection and certain diseases of the eye is beyond question. There is rarely a day in my office in which I do not have to make a differential diagnosis between a disease of the

eye and some form of sinus infection. I have in mind now three cases treated within the last year, where optic neuritis or neuroretinitis was cured in each case by providing thorough drainage of the infected ethmoid and sphenoid cells.

From some experience in the past two years I find that cases of so-called facial neuralgia or *tic douloureux* are often the result of pressure coming from an impaired wisdom tooth, so that now the first thing I do in every case of suspected sinus disease, whether or not we have eye symptoms, is to positively exclude any trouble with the teeth. In doing this I always call into service the x-ray expert and a capable dentist. What the experience of the members of this society may be I do not know, but I have been forced to conclude that competent, reliable dentists, who really understand and appreciate diseased condition of the teeth, are very scarce.

I agree, in the main, with Dr. Rumsey's suggestion for treatment. In fact, the whole paper is a good one and deserves careful study.

EVERETT JONES: It is a pleasure to commend Dr. Rumsey's excellent paper on "Sinus Disease Affecting the Eye," for it is thorough and serves to suggest many important points relative to sinus diseases in eye troubles.

Inflammation of the sinuses may give rise to morbid processes in any of the structures of the eye. This is accounted for, I think, by the free anastomosis of the veins of the sinuses with the ophthalmic vein.

Posey, some time ago, demonstrated that the extraocular muscles may become paralyzed from sinusitis, because the nerves which supply the muscles are in close anatomical relationship with the walls of the sinuses, and may be paralyzed by pressure or by toxic influence.

I want to emphasize sinusitis of the ethmoid cells, anterior and posterior, affecting the eyes. The symptoms of fulness between the eyes and over the bridge of the nose invariably indicate some involvement of the ethmoid cells, which may vary from congestion to actual empyema. Blurred vision, with positive pain behind the eyes, is indicative of ethmoid disease.

I have had several cases referred to me by oculists, where they had carefully refracted the eyes without relief.

My treatment has been according to the variety of the sinusitis. For a simple condition of hyperemia, I use adrenalin with a little cocain. The Dowling tampon is most satisfactory in many cases, and in all cases of empyema I open the cells usually by the intranasal route, having previously removed the anterior half of the middle turbinate.

R. S. COPELAND: This paper by Dr. Rumsey is a valuable one, worthy the attention of any specialist in diseases of the nose and throat. I remember, years ago, being in Europe, in Schwartz's clinic. Those of you who saw him know that he looked like Santa Claus, with round, fat face and white whiskers. He was asking about con-

ditions in America. I told him that many of us limited ourselves to the eye, ear, nose and throat. He laughed and said what an absurd thing it is to limit oneself to a study of these without knowing everything about general practice. All eye men, he said, should also be ear, nose and throat, as well as general practice men.

When one considers the anatomical relationship between the eyes, nose, ears and throat, and especially between the eyes and the accessory sinuses, one is impressed with the importance of knowing all about these organs in order to understand the diseases of any one of them. One is especially impressed with the possibility of eye diseases being secondary to troubles in the nose. We have so many nerves and blood vessels running from one to the other, together with absence of bone in places, mucous membrane being the only barrier between the two, that it is not difficult to understand they must be intimately connected in disease. I remember two or three affections of the eye which were entirely due to nose troubles; one young woman was tremendously mortified by chronically blood-shot eyes; she was troubled continually and during the previous ten years had had many kinds of glasses and I guess some barrels of eye water without result. In that particular case and in other similar cases I had most satisfactory results from the use of Dr. Dowling's tampons of argyrol. We all owe a great debt of gratitude to Dr. Dowling for his discovery of the peculiar merits of these tampons and the generosity with which he has told the profession of it. The application of these tampons twice a week for three months caused the disappearance of this scleral hyperemia, to the great delight of the patient. I could recite a case of recurrent iritis, and a patient with symptoms of asthenopia where many glasses had given no help, which were entirely relieved by the application of the tampons. I have doubt in my own mind but that there was sinusitis sufficient to cause the eye symptoms; the treatment of the eyes indefinitely would do and did do no good, but the application of the tampon cured. Headaches coming on in the morning, chronic headaches, without apparent reason, are very apt to be due to sinusitis and will be relieved by directing the treatment to the nose.

JOHN L. MOFFAT: I know of an obstinate case, beginning with central scotoma and running into pernicious anæmia, which was finally found to be a streptococcic infection attributed to pyorrhea alveolaris.

After vaccines, and attention to the teeth, the vision and general health have begun to improve encouragingly..

J. A. CAMPBELL: The moral to be drawn from the paper is that success depends largely upon accurate diagnosis. I have run up against a lot of cases in which the whole thing, treatment, prognosis and results depended entirely upon diagnosis. A nurse came to St. Louis with history of former ear trouble, as was said. She began to lose sight. Six physicians and specialists were called in; all said brain tumor, depending on suppressed ear trouble, treated in Kansas City. I

found eye trouble, choked disk and evidence of a tumor in the brain, but I affirmed not from otic abscess, but located on the other side of the head. I arrived at this conclusion on account of the implication of the various eye muscles—and predicted death. She died in two weeks. A post-mortem records sarcoma of the lower cerebral lobe of left side, as I had said.

Last month a lady came to me who had lost the sight in one eye; I could not tell you anything that had not been done to that eye. Every examination was made that could be made. The eye was perfectly blind and the loss of vision was said to be due to interocular hemorrhage. Among other things five teeth had been extracted on a false diagnosis. Six injections of tuberculin had been made—iodide of potassium in large doses had been given. The eye trouble had nothing to do with those teeth. Forty years ago I wrote on "The Eye Tooth and the Eye." We know inflammation of the teeth may, at times, affect the eyes, but we must not jump to the conclusion, as the doctor did who had five teeth extracted from this woman's mouth.

About the first of May a gentleman came to me with poor vision; about 15/200ths. Every examination had been made in his case, but no conclusion had been reached. I treated him conservatively and in five days his vision began to improve; in ten days it was 15/200ths and in a month he recovered perfectly. If I had jumped to the conclusion that it was sinus disease I could not have helped him at all. If I had operated upon his sinuses I would have made a grave mistake. Correct diagnosis is the thing.

HERBERT D. SCHENCK: I want to emphasize a point in regard to teeth. There is absolutely no reason for extracting five good teeth on *suspicion* that they are causing trouble in some obscure condition, because a radiograph can be made that will show their condition perfectly. I had occasion, within a year, to realize how little the average dentist knows about these reflexes and how defectively applied crowns may cause serious reflex disturbances in the eye; a patient with recurrent corneal ulcers that I could not permanently cure; and the ulcer clearing up for a few weeks only to recur. They were almost entirely on the left side. It was not so difficult to clear up a crop, but they would not stay healed. There was also an attack of episcleritis, so that she was incapacitated from any use of her eyes.

Transillumination showed no trouble in the sinuses. I finally concluded there was some trouble with her teeth, but I could not get her to believe me because she had just as much confidence in her dentist, who said her teeth were all right, as she had in me. The ulcers kept recurring until finally one crept into the pupillary space and she concluded something must be done. A radiograph of her teeth revealed that there was a bad molar on the left side that had been crowned in a defective manner. The nerve cavity was ulcerated and there was pus all through the root. It was cleaned out, the root curetted, and she has not had an ulcer since.

Dentists, in many cases, have not awakened to the fact that pyorrhea may cause ulceration of the cornea and many other reflexes. Last November, at the Clinical Congress of Surgeons of North America, at Chicago, a paper was presented on reflexes from the teeth, by a St. Louis dentist. I have no doubt that he exaggerated the matter somewhat, but he certainly pointed out many real reflex troubles arising from defects in the teeth.

GEO. B. RICE: I wish to commend Dr. Rumsey for his excellent presentation of the subject. I was thinking, when he finished his paper, of the many points he touched upon, and of the impossibility of discussing all these points satisfactorily in one session.

Dr. Copeland spoke of the necessity, of a specialist in any branch having a reasonable knowledge of all the other specialties, and also of the whole body. I agree with him that this is a necessity, but it does not seem possible to me for any one person to do complete justice to all of our specialties; that is, to have a complete equipment, and to have acquired sufficient skill in diagnostic and operative work to be able to compete with those who specialize more exclusively.

As to the importance of diagnosis, no one questions that. Someone has said that transillumination is of little use in the diagnosis of sinus disease. I think this is too broad a statement, for if the transillumination is corroborated by other signs it is a valuable aid in diagnosis. Perfect transillumination certainly means something, although shadows do not necessarily.

GILBERT J. PALEN: I have been especially interested in Dr. Rumsey's paper for I have always taken a great interest in the anatomical study of the accessory cavities. One point that I would like to bring out, one not often thought of, is the connection of the posterior ethmoidal cells with the sphenoid sinus, explaining how the sinus may become the channel of drainage for the posterior ethmoid cells. I have frequently seen on making sections of skulls where the ethmoid cells extended out and made the roof of the sphenoid sinus. Hence in ethmoidal disease you may have the discharge coming from the sphenoid sinus. One of the first cases of sphenoidal sinusitis I ever had was one in which the opening could readily be seen on account of the atrophy. Treatment of the sinus produced no results until finally I reached the conclusion that the posterior ethmoidal cells were at fault and then I did get results. The society is to be congratulated upon this important paper; the subject is one of immense importance to us all.

CHAS. LESLIE RUMSEY: The effort of the paper has fulfilled its mission by bringing about this discussion. Its purpose is to awaken the thoughts of our members; to learn, wherever possible, the causes of the respective diseases of the eye. It is true that much time could be profitably spent in discussing and considering one sinus. We have so many aids to accomplish a successful diagnosis, that no one is exempt from censure who does not use them. To illustrate: I have

a friend who was suffering with a fistula tract in the chin. He had been told there was necrosis of the inferior maxillary. Eight months after that he consulted me with eye symptoms, to advise a radiograph of the jaw. The radiograph showed an ulcerating tooth with a streptococcus infection that caused both the fistula tract and also the eye symptoms. The extraction of that tooth did away with both jaw and eye symptoms.

The crux of my paper is a plea to make accurate diagnosis.

Medical Inspection of School Children. The importance of this subject is evident when it is estimated that 70 per cent. of deaths in the United States are due to contagion, that the vast majority of such contagion originates in schools and that, annually, about 11,000 die of scarlet fever, about 10,000 of whooping-cough, and about 9,000 of measles.

Some considerations in the prevention of disease acquired in school are as follows:

It is estimated that each pupil should have 15 square feet of floor space and 200 cubic feet of air space. Each school room should be about 30 feet long, 25 feet wide, and 13 feet high, and should accommodate not more than fifty children. Allport states that the temperature should be about 68° F., and the humidity between 60° and 70°. The thermometer should hang where it will tell the truth, and the best region with this object in view is on a bracket on the inner wall about 4 feet from the floor.

The sanitary measures require proper plumbing, proper drinking facilities, proper towels, sterilization of pencils, books, etc., and anti-septic cleaning of school rooms. Safety requires good fire escapes and fire drills.

ESERIN IN OPHTHALMOLOGY.

HENRY L. GOWENS, JR., M. D.,

Philadelphia.

PHYSOSTIGMINE. eserin, physostigma, $C_{15}H_{21}N_3O_2$, is an alkaloid obtained from the Calabar bean, *Physostigma venenosum*. It is a crystalline or amorphous, brown-yellow powder. Its solutions vary in color from red to blue, and are strongly alkaline in reaction. It is a violent poison, and strongly contracts the pupils. The salicylate, occurring in crystalline prisms, and the sulphate, a yellow-white, crystalline powder, are official.

It was discovered in 1864 by Vee and Deven, and Argyll-Robertson introduced it into ophthalmology in 1865. Careful investigations of the drug were also made by von Græfe. Langner, in 1876, suggested its use in miner's nystagmus.

Its contraction is so extreme that besides the myopia, astigmia is also caused, being the opposite of the presbyopia caused by atropin. Besides these early facts made known about the drug, in over a half a century little has been added, but much has been done by many students in reporting the special indications and contra-indications for its use.

Cornea. Here eserin is indicated in marginal ulcers threatening perforation, where there may occur a prolapsus of the iris. In fistula of the cornea it is used along with light bandaging of both eyes and rest in bed, in order to effect the closure. In phlyctenular keratitis it is useful in diminishing photophobia. It has also been recommended in kerato-conus.

Iris. Here it is used following the extraction of a cataract in its capsule when the iris is punctured. In a series of 45 cases of extraction of the cataract in its capsule eserin was used in 13 cases. It is used, as above stated, in prolapse of the iris no matter under what condition it occurs. It is also used alternately with atropin in posterior synechiæ after the subsidence of the acute symptoms. In iridectomy for glaucoma, even when chloroform or ether is used, a more profound degree of anesthesia is obtained by the use of eserin every five minutes for half an hour before the operation.

Lens. Eserin is used in subluxation of the lens together with rest in

bed as the conservative treatment. When glaucomatous complications after the extraction of a cataract is due to the immoderate use of atropin, eserine and dionin overcome the increased tension. Used as a routine in simple extraction it not only prevents an acute glaucoma, but also an anterior synechia.

Retina. It is indicated in commotion retinae together with electricity and a very light massage. Also in detachment of the retina as an adjunct to the medical treatment, which otherwise consists of comprehensive bandaging rest in bed, diaphoresis, counter-irritation, and local blood-letting.

Tension. In some cases of increase of tension the use of eserine prevents the recurrence. The drug has been used by one author 13 years and by another 25 years. It is indicated in acute glaucoma, chronic glaucoma and in inflammatory glaucoma. Eserine reduces the tension in from ten minutes to one hour. Its effect begins to wear off in six hours and is over in four days.

Both the sulphate and the salicylate of eserine are used. It is best to begin with $\frac{1}{2}$ grain to the \mathfrak{z} solution and it is not safe to go higher than a grains to \mathfrak{z} solution.

Contra-indicated: When headache and nausea are caused by its use, in acute iritis, cystitis, myopic eyes except those due to glaucoma, retinitis, chorioiditis, chorioretinitis and in superficial and deep keratitis. Some authors recommend its use in post-diphtheritic paralysis of the iris, while others contra-indicate its use in the same.

BIBLIOGRAPHY.

Speer, G. G., *Therap. Gaz.*, Detroit, 1904, 3. s., xx, 443.

Wolffberg, *Veknschr. f. Therap. U. Hyg. D. Auges. Dres.*, 1902-3, vi, 113-115.

Myers, D. W., *J. Ophth., Otol. and Laryngol.*, Lancaster, Pa., 1914, xx, 55-70.

Wessely, K., *Centralbl. f. pracht. Augenh.*, Leipz, 1913, xxxvii, 303-310.

Wolfflin, E., *Klin. Monatsbl. f. Augenh.*, Stuttgh., 191E, N. F., xv, 349-353.

Brav, A., *Therap. Gaz.*, Detroit, 1906, 3. s., xxii, 80-83.

Barrett, J. W., *Australas M. J.*, Melbourne, 1911, xlv, 633-636.

Hughes, R., *Pharmacodynamics*, 1880.

Pyle-Darier, *Therapeutics*, 1910.

Spencer, K., Kosher, G., Hahnemannian Monthly, July, 1905, vol. xl, p. 542.

Witherstine, C. S., Sajous's Ana, Cyl., vol. v, 1910.

Beard, C. H., Opth. Surgery, 1910, p. 517.

Fuch's-Duane, 1908.

Bartley, E. H., Med. and Phar. Chem., 1902.

Potter, S. O. L., Mat. Med. Phar. Therap., 1908.

Posey, W. C., J. Am. M. A., 1914.

1636 Walnut Street.

Ethyl-Morphin-Hydroiodid.—Anent a recent article in the JOURNAL on the use of "Dionin" in ophthalmic therapeutics, may I suggest the substitution of a less irritating drug? Dionin is ethyl-morphin-hydrochlorid. If the chlorine element is replaced by iodine, we have ethyl-morphin-hydroiodid.

I have used this for about four years with absolute satisfaction. The iodine preparation is less irritating than that containing chlorine and more absorptive in its action, while the general lymphagogue action is not altered. It is less soluble than the dionin (four per cent. in watery solution), but can be used much more freely in its finely powdered form and acts best that way.

The results with its use in interstitial keratitis, in cicatrizing ulcers of the cornea, in the blepharospasm and photophobia of parenchymatous keratitis, in iritis, cyclitis and episcleritis—are remarkable.
Wm. M. Hillegas.

WHICH IS THE GREATER AFFLICTION, BLINDNESS OR DEAFNESS.

JAMES A. CAMPBELL, M. D.,

St. Louis.

AS I remember it this interesting question comes more frequently from our afflicted patrons than as a subject for discussion among specialists themselves. In fact, as I recall it, very rarely has it ever been referred to in eye and ear literature.

It has been frequently remarked that the inmates of blind asylums seem far happier than those in deaf and dumb schools, and it has been wondered at.

In the proceedings of the Chicago Otological and Laryngological Society, of December 16th, 1913, as reported in the *Annals of O., O. and L.*, June, 1914, page 489, the relative catastrophe between blindness and deafness was brought out, incidentally, in a discussion between Dr. J. R. Fletcher and Dr. Kenyon, in which Dr. Kenyon said he did not know that he had an intelligent answer for the question; while Dr. Fletcher was of the opinion, with no special analysis of the reasons thereof, that the deaf were worse off than the blind.

In 1882 I issued a little book on the mechanical "Helps to Hear;" since this is long out of print, perhaps I may be permitted to refer to the introductory chapter, in which I discussed this same subject and endeavored to give a satisfactory explanation, as follows: Which is the greater affliction, blindness or deafness? is a question, which is sometimes discussed. Certainly either is a calamity, but observation teaches that while the deaf are less helpless, the blind are, as a rule, the happier of the two. At first thought this statement may seem strange, but the fact remains, and a satisfactory explanation may be offered. When one loses his sight he becomes helpless and must depend on some one else for assistance in all his life relations; his very existence hinges upon this; and hence the blind surrender themselves most completely to their surroundings and, accepting the situation, find their happiness within themselves: while a deaf man, seeing with sharpened eyes all that is going on around him and hearing nothing, becomes suspicious and morbid—and hence unhappy.

Again, the blind receive a universal sympathy, which is not extended to the deaf; this is consoling and helps them bear their misfortune with becoming philosophy and resignation.

This, it seems to me, is the answer to the question.

The deaf do not receive the consideration which is due them from their associates. This is usually more unthoughted than intentional, and it will be a kindness well bestowed if we can, in some degree, lessen their burden by keeping the fact in mind.

The longing desires, the sensitive tenderness and deep pathos of the situation is pictured in a poem* by Judge J. F. Simmons, quoted in full at the end of the little book spoken of, the first verse of which I venture to quote:

I often think it must be sweet
The notes of happy birds to hear,
When from some leafy bough they greet
The sun rays that through clouds appear;
For I have thought that even I,
When clouds their shadows o'er me fling,
If cheerful sunlight swept by them,
Sweet songs of gratitude could sing;
And if my heart to song be wrought,
When grateful thoughts my bosom fill,
What melodies—by nature taught—
From feathered chorister must thrill,
But then to hear is not for me
Alas! I hear not—yet I see—

*"The Welded Link and Other Poems."

CURRENT LITERATURE.

KLINISCHE MONATSBLÄTTER FÜR AUGENHEILKUNDE.

Inhalt des September Heftes, 1914.

Dr. M. Handmann, (Döbelin), Ueber Spontanluxation der ektopischen Linse in die vordere Augenkammer und innere Rupture der Sklera ohne Trauma. Mit 8 Textabbildungen.

Prof. Dr. Abelsdorff,—Die Wirkung des Thorium X auf das Auge (Mit Tafel III-IV.) (Aus dem Radiuminstitut der Kgl. Charite für Biologisch-therapeutische.) (Direktor; Geheimrat Prof. Dr. W. His.)

Dr. M. Meyerhof (Kairo), Beobachtungen über akute Konjunktivitis und Trachom der Säuglinge in Aegypten.

Dr. E. Puscariu (Bukarest), Die Wirkung des Optochins bei der Conjunctivitis blennorrhoea. (Aus der Universitäts—Augenklinik zu Bukarest.) (Direktor: Prof. Dr. G. Stanculeanu.)

Dr. G. F. Rochat und Dr. C. E. Benjamin (Utrecht), Einige Erfahrungen mit der endonasalen Eröffnung des Tränensackes nach West Polyak. Mit 1 Textabbildung.

Prof. Dr. M. Bartels (Lima), Ueber willkürliche und unwillkürliche Augenbewegungen (Nystagmus der Blinden, pupillary reflex, Blickbewegungen der Tiere). Mit 1 Textabbildung.

Dr. M. Diem (St. Gallen), Retinitis punctata albescens et pigmentosa. Mit 1 farbigen Textabbildung und 4 Gesichtsfeldern.

Dr. H. G. A. Gjessing (Drammen, Norwegen), Akuter Glaukomanfall ausgelöst durch Holokain-Zinkeinträufelung?

Dr. F. Rössler (Wien), Orbitalphlegmone mit Atrophie und Pigmentierung des Sehnerven nach Tränensackeiterung. Mit 1 Textabbildung. (Aus der II Universitäts-Augenklinik zu Wien.) (Hofrat Prof. Dr. E. Fuchs.)

San. Rat Dr. J. Ascher (Frankfurt a. M.), Polyzythämie und Auge.

Dr. P. Christel, Die Pallidinreaktion bei Keratitis pigmentosa. (Aus der Kgl. Universität-Augenklinik zu Erlangen.) (Direktor: Prof. Dr. J. N. Oeller.)

Dr. Th. V. Speyr (Chaux-de Fonds, Schweiz), Ein Fall von akuter Chininvergiftung mit bleibender hochgradiger Gesichtsfeldeinengung.

Dr. J. Streiff (Genua), Zur methodischen Untersuchung der Blutzirkulation in der Nähe des Hornhautrandes. Mit 5 Textabbildungen.

Geh. San. Rat Dr. C. Augstein (Bromberg), Beiderseitige Amaurose mit Linsenluxation und ausserordentlicher Entwicklung von Interkalarstaphylomen bei erhöhter Spannung nach kongenitaler Aniridie. Mit 3 Textabbildungen.

Prof. D. M. v. Rohr (Jena), Ueber ältere Wandlungen der Gläserformen. I. Brillengläser für achsensymmetrische Augen. Mit 2 Textabbildungen.

Dr. W. Reitsch (Hirschberg i. Schl.), Ueber ein primitives Fernrohr und seine Verwendung für Schwachsichtige auge.

Prof. Dr. G. Levinsohn (Berlin), Zur Technik der Tonometrie. Mit 5 Textabbildungen.

Dr. P. Stoewer (Witten), Ein weiterer Fall von Spätinfektion nach Elliottrepanation.

Dr. R. Pape (Detmold), Ein Fall von Akkommodationsparese nach Vulvovaginitis diphtherica.

Dr. C. Hamburger (Berlin), Erwiderung auf die Arbeit Rados: "Ueber die vitale Färbbarkeit der Endothelien der Decemetschen Membran."

Die Wirkung des Optochins bei der Conjunctischen Blenorrhoea. Prof. G. Stanculeanu, Bukarest.

The physiological action of this new derivative of China, so-called Aethylhydrocuprein or optochin, is sufficiently known amongst the ophthalmologists by the writings of Von Morgenroth, Gensberg, Goldschmidt, Schur, Darier, Holth and Kümmel. Experimental and clinical examinations of the above authors have proven that this compound exerts a tremendous influence on cultures, infected mice, and a very positive action in Serpiginous ulcer due to pneumococcic infection. Prof. Stanculeanu saw the above result of optochins in pneumococcic infection, and he decided to use it in a series of gonorrheal conjunctivitis cases, eight cases between February and May. A one or two per cent. solution of optochins hydrochloride was used. The one per cent. solution was instilled hourly, the two per cent. solution every two hours. The instillation was made while lids were everted and solution allowed to remain one minute, then neutralized by boric acid solution.

The eight cases of gonorrheal conjunctivitis could be divided in three groups as to time when the optochin was employed:

First Group.—Case one belonged to this group, treatment with optochin occurred 48 hours after the disease began; in 3 days complete cure, and disappearance of gonococci.

In the second group belong cases 3 and 7. The treatment was begun 5 to 7 days after its incipency, in other words, at a time when inflammation and secretion had reached their height.

In the first case the gonococci dropped in 12 days. In the second case, gonococci dropped from both eyes in 14 days.

To the third group belong cases 2, 4, 5, 6, 7. The treatment began 4 to 6 weeks after beginning of the disease. In all these cases disappearance of the gonococci after 3 days.

Résumé.—This experimentation with optochin in gonorrheal conjunctivitis in fresh cases and in the period of convalescence shows a rapid action in the drug; where the disease has reached its acme about fourteen days are required. Still for this same condition all ophthalmologists have seen cases of gonorrheal conjunctivitis where gonococci have been present one or two months. Again, Stanculeanu is of the firm opinion that optochin has a decidedly quicker action on complications of gonorrheal conjunctivitis, such as beginning infiltration of the cornea and corneal ulcer. In cases where there is profuse discharge, Stanculeanu recommended 10 to 14 instillations a day. There is no doubt in the author's mind of optochin eventually displacing Agno 3.

F. O. N.

THE AMERICAN JOURNAL OF OPHTHALMOLOGY. Oct.

*I. Ocular Tuberculosis in Relation to the Nose and Throat. W. H. Luedde.

*I. The histories of four cases of ocular involvement by tuberculosis are given, in which the pulmonary symptoms and examinations were negative, but the post ethmoidal and sphenoidal sinuses did show the effects of inflammation. The opinion of the writer is, that ocular involvement occurred either through the blood stream or by seepage through the diseased or thinned bones, which separate the orbit from the sinuses.

A case of retino-choroiditis, while not diagnosed as tubercular at first, in a retrospect showed conclusively the presence of tubercular involvement of the eye. The condition was thought to be luetic and appropriate treatment was given, but the condition advanced in the better eye while the patient was having antiluetic treatment.

Injections of tuberculin caused a reaction in the eye and also in the sinuses, with improvement in the vision as a result. Other injections still further improved the vision.

Case No. 2. Central retino-choroiditis of the o. s. with gradual decrease of vision. A general physical examination proved negative and von Pirquet was negative.

Nasal examination showed a left middle meatus closed by swollen turbinates, so a portion of the middle turbinate was removed to secure drainage. The sphenoid and ethmoid sinuses were seen to be congested, but no purulent secretion was found. A tuberculin test was used, which gave a distinct reaction in the sinuses.

Treatment directed to remove the tubercular sinusitis improved the vision.

Case No. 3. Parenchymatous keratitis, in which a circumscribed circular interstitial infiltration occupied the upper temporal quadrant of the right cornea. No pulmonary tuberculosis was present and the general condition was good. Nasal examination revealed an atrophic rhinitis, which masked any local reaction when tuberculin was given, but the eye showed a distinct reaction and by continuing the treatments the corneal condition was cured.

Case No. 4. A case of chronic uveitis was cited which responded to treatment directed to the cure of a sinusitis. A von Pirquet was positive and a reaction in the sinuses was also present.

Conclusions.—To diagnose ocular tuberculosis, a reaction must be noted in the eye following injection of tuberculin. Such reactions were present in all cases as were also reactions in the nasal sinuses. There was no evidence of pulmonary or general tubercular involvement in any of the cases cited.

2. The Staining of the Endothelium of Decemet's Membrane, by A. Rados. Translated by A. Alt.

ARCHIVES OF OPHTHALMOLOGY. Sept.

*1. Psammosarcoma of the Orbit in a Girl of Thirteen. Successful Removal with Preservation of the Eyeball and Its Functions. G. E. de Schweinitz.

2. The Convergence Index as a Measure of the Converging Power. Alex Duane.

*3. A Case of Symmetrical Occlusion of the Pupils by the Development of Cysts and Small Solid Masses from the Uveal Layer of the Iris. J. E. Weeks.

4. Report of a Case of Detachment of the Retina, Occurring in a Case of Neuro-retinitis, Restored by Scleral Trephining Operation, Associated with Incisions of the Choroid and Retina. No Recurrence After a Period of Eight Months' Time. W. R. Parker.

5. A New Procedure in Cataract Extraction, a Subconjunctival Flap Method of Capsulotomy. H. W. Wandless.

*1. Dr. de Schweinitz cites a case of psammosarcoma existing in the upper inner quadrant of the orbit. The tumor was first noticed $2\frac{1}{2}$ years ago, and by its gradual increase in size, the eyeball was pushed down and outward by the tumor, but no diplopia or loss of vision was present.

The growth consisted of a rather dense mass, with faintly elastic sensation on deep palpation. The tumor was removed through an incision, beginning at the center of the left eyebrow and continued through the eyebrow and along the inner side of the nose to a point opposite the inner commissure. The growth which, in color and consistency, resembled brain tissue, was enclosed in a thin bony capsule.

The whole mass was removed and recovery was uneventful except for a diplopia which existed for a short time, then gradually subsided. Microscopical examination of the tumor revealed a psammosarcoma.

*3. The case reported by Dr. Weeks is a woman 28 years of age. The eyes were examined when 11 years old and pigmented masses were noted in the pupils.

The vision was being gradually reduced, and at 18 years of age was O. D. 6/16 and O. S. 6/12.

At 28 years of age the vision was O. D. 20/50 and O. S. light perception. Both corneæ were clear, and the anterior chambers were about normal.

Atropin instilled into the eyes gave but a slight action to the pupils. The right pupil was nearly occluded by small pigmented, spheroidal masses varying in size, except for a very small irregular opening. The left pupil was occluded by several large globular masses and small masses. A diagnosis of cysts of the uveal layer was made. Iridectomies were done and the cystic bodies removed. After operation the vision was, with correcting glasses, 20/20 o. u.

W. McL.

THE LARYNGOSCOPE. Sept.

*1. Oral Complications of the Exanthemata. C. R. C. Borden, Boston.

2. The Etiology, Diagnosis and Treatment of the Aural Complications of the Exanthemata. S. A. Friedberg, Chicago.

3. Two Cases of the Loss of Caloric Vestibular Reaction, with Operative Findings. E. B. Dench, New York City.

*4. Teratoma of the Pharynx. C. B. Eves, Phila.

5. Orbital Abscess with Optic Neuritis Due to Acute Ethmoiditis in a Child Operation. Recovery. J. H. Guentzer, New York City.

*6. The Use of Vaccines in the Treatment of Chronic Diphtheria Carriers. A. T. Weil, New Orleans.

7. An Apparatus Designed for the Purpose of Giving an Approximately Accurate Quantitative Hearing Test. J. W. Downey, Jr., Baltimore.

8. New Tonsillectome. H. B. Searcy, Tuscaloosa, Cal.

*1. Oral Complication of the Exanthemata. R. C. Borden.

Dr. Borden's findings from the study of 454 autopsies after death from diphtheria, scarlet fever and measles show that serious conditions arising from the very frequent middle complication are rare. Meningitis, brain abscess and jugular thrombosis are rarely seen, but there are consequences of serious nature frequently met in the heart, pleura, lungs, joints and elsewhere. The author does not claim that all complications in these regions arise from the middle ear; he does believe, however, that a certain number are of middle ear origin and the ear may be justly considered a *source* of such infection until careful examination has proved it free from suspicion.

The onset of oral complications is fairly constant in measles and usually develops with the active inflammation in the nose and throat and the patients who escape during this period usually remain free from complications throughout the disease. Aural symptoms in diphtheria and scarlet fever, on the contrary, may arise at any time with any degree of severity. With diphtheria on the whole they occur late, rather than early.

With the complication of ear trouble the symptoms appear so irregularly that much confusion as to diagnosis often develops, and it is not the symptoms which are present, but those that are absent that usually put us in a quandary. Pain is a most unreliable symptom.

Generally speaking the younger the patient the greater the susceptibility to aural complications. In severe attacks of measles, adults are nearly as subject to middle ear disease as young children and they are even more liable to mastoiditis if the middle ear becomes infected.

The appearance of the drum membrane differs somewhat in the contagious diseases from similar conditions from other causes. The color is less fiery red, and more of a grayish pink, and gives "a porky sensation when performing paracentesis." This infiltration doubtless accounts for the color and absence of pain in many cases..

The color and character of the discharge are characteristic. At the onset they are much the same, but in scarlet fever usually become the creamy white of streptococcic pus, occasionally yellow from staphylococci. Pneumococcus is usually a dirty, light-brown color and is very profuse. In measles the pus is of a light-brown color lacking the creamy nature of pus seen in scarlet.

The amount and character of the discharge, drainage, and sufficiently free drainage are most important concerns.

As to treatment to guard against ear complications, to the route of infection, the Eustachian tube, attention naturally directs itself. But on the adoption of routine douching and spraying of the nose or naso-pharynx the proportion of complications rapidly increased (Boston City Hospital). Such procedure should never be practiced at the present time. "There is but one true method of preventing aural complications, *i. e.*, thorough removal of adenoid tissue before the patient contracts the disease." The proof of this is borne by the figures showing a decrease in complications since the introduction of the adenoid operation. There is no other method of avoiding or preventing aural complications.

*4. Dr. C. B. Eves presents an interestingly rare case of teratoma of the larynx arising by a long pedicle behind the right posterior pillar. Gagging threw the long finger-like growth out of the mouth; the patient, a child of 14 months, would chew upon it for a while, then swallow it out of sight, much to consternation of family and physicians. It was removed without trouble.

*6. Weil: Vaccines and Diphtheria Carriers.

Repeated dosage of diphtheria vaccines (not antitoxin) is of decided value in reducing the number of that dangerous class the carrier. Dr. Weil's conclusions are that the number of K. L. Bacilli rapidly diminish if not entirely disappear under the treatment. Large

doses can be given and are more effective. The article is most complete and convincing,—and the case histories interesting.

Alterations in the Blood in Hay Fever. E. E. Roberts, *Br. Med. Jour.*, May, 1914.

Dr. Roberts has found a decrease in the hæmoglobin per cent., a polycythemia, an eosinophilia and an increase in the large mononuclear

THE JOUR. LARYNGOLOGY, RHINOLOGY AND OTOTOLOGY, Nov.

1. Clinical Aspect of Otosclerosis. J. S. Fraser and Gideon Walker.

2. The Treatment of Otosclerosis. G. J. Jenkins.

*3. Auditory Re-Education. T. F. Muecke.

*3. Dr. Muecke's investigation of all the re-education apparatus has been thorough, he having studied the five best known of these instruments. His results were decidedly unsatisfactory and negligible.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, November 14.

*I. Oral Endamebas. Allen J. Smith, Wm. S. Middleton, M. T. Barrett.

*I. Dr. Smith has come upon quite a new line of thought in his discovery of the amœba in the mouth. He has not as yet developed his subject and the paper at hand is but preliminary. Emetin has proved a decidedly encouraging treatment in these few isolated cases. The relationship of the organisms to general disease is not yet established but it is plausibly suggested that since the amœba feed chiefly on the bacteria present, there is the possibility of endotoxin liberation. This may explain, in time, the causative effect of oral sepsis in the arthritides and anæmias. The amœba were frequently isolated from the cheesy material from tonsillar crypts—and in pyorrhæ.

November 21.

*I. Value of Roentgenography in Diagnosis of Disease of Larynx and Trachea. Sam'l Iglauer, Cincinnati.

*I. With a special training in the study of Radiograms of the larynx and trachea much can be determined as to abnormalities which cannot be found by our present diagnostic instruments. The deeper structures in chronic diseases such as syphilis and tuberculosis show

up changes in their walls and in the cartilaginous rings. In stenosis or distortion of the lumen of the larynx or the trachea, the seat, the nature and the extent of the lesion are usually revealed. Roentgenography also enables us to study the effects of operations on these tubes. The science has reached a stage now that has made possible the showing up of many soft tissue details.

*2. Reconstruction of the Septum. Babbitt.

*2. Dr. Babbitt cites a case of regeneration of cartilage in a case upon which a "submucous" had been done. The remainder of the article is general in its treatment of the subject.

DOUGLAS MACFARLAN.

NOTE.—On account of the war most of the foreign journals are either late or entirely suspended.

SOCIETIES.

The regular meeting of the Philadelphia Eye, Ear, Nose and Throat Society was held on Monday evening, November 12th, 1914, in the Hahnemann Medical College.

The following officers were elected for the year: President, Dr. H. S. Weaver; Vice-President, Dr. Percy Tindall; Secretary and Treasurer, Dr. Joseph V. F. Clay..

The essayist of the evening was Doctor Gilbert J. Palen, Professor of Otology in Hahnemann Medical College, Philadelphia.

Doctor Palen's subject was "Bezold's Mastoiditis, A Third Series of Cases." This paper will appear in the January issue of the JOURNAL. In his usual clear and concise method of presentation, Dr. Palen, through his painstaking study of Bezold's original work, and his own study of twenty-three personally observed cases, gives us clearly the anatomical reasons for this condition and explains the variations in the clinical manifestations.

JOSEPH V. F. CLAY, *Secretary.*

The recent meeting of the Southern Homœopathic Medical Society, which was held in Baltimore on November 10th, 11th and 12th, was a very successful and interesting one. The attendance was large and many interesting papers were read. Of special interest was the Symposium on Chronic Suppurative Conditions of the Nasal Accessory Cavities, which was given by the following members of the O., O. and L. Society: Doctors Burton Haseltine, J. R. McCleary, J. J. Dowling, C. L. Rumsey, D. W. Myers, Gilbert J. Palen, Wm. Phillips, George W. Mackenzie, Harold Foster, George Shepard and G. DeW. Hallett. This symposium will appear in the JOURNAL in the January issue and will prove interesting reading.

A very interesting paper was read by Dr. George W. Mackenzie on "Mastoid Disease From Its Etiological Standpoint." This paper was very well received.

During this meeting Doctor and Mrs. Rumsey extended true Southern hospitality to the members of the O., O. and L. Society by entertaining them at a most excellent dinner at their home.

Doctor Burton Haseltine spent several days in Philadelphia during November. He was made welcome by the local specialists and dur-

ing his stay, held interesting clinics at the West Philadelphia Homœopathic, the Women's Homœopathic and Hahnemann Hospitals. Upon the request of Doctor Gilbert J. Palen, Professor of Otology in the Hahnemann College, Doctor Haseltine consented to hold Doctor Palen's otological clinic for the students. The occasion was also a rally for the local specialists who greatly enjoyed Dr. Haseltine's talk on mastoid conditions and were especially interested in the radical mastoid operation which he performed. It is pleasant to note this courtesy between the professors of our institutions. A wider and more general visiting of our college teachers would do much to create a good feeling between our institutions and would give our students the benefit of hearing other teachers. It is certainly a step toward good feeling and harmony.

At the Philadelphia Homœopathic County Medical Society, held November 18th, Doctor Robert M. Jones, of New York, gave a talk on Acute Tonsillitis. This was discussed by Doctors Street, of Chicago, and also Doctors Haseltine, Myers and McCleary. Other members of the O., O. and L. Society present at this meeting were Doctors George W. Mackenzie, H. S. Weaver, Joseph V. F. Clay, I. G. Shallcross, G. W. Alexander and Gilbert J. Palen.

At a meeting of the Philadelphia Clinico-Pathological Society, held November 21st, a very interesting case of Auditory Neuritis Due to Illuminating Gas Poisoning was reported by Dr. Joseph V. F. Clay.

The South Philadelphia Homœopathic Medical Society held its regular meeting November 17th. The scientific program consisted of "A Talk on Mastoiditis," by Dr. Gilbert J. Palen. The talk was illustrated by original lantern slides and anatomical specimens.

G. J. PALEN.

ABSTRACTS.

The Faucial Tonsils as a Gateway to General Infections.—Attention is directed to this important subject, not because physicians are not familiar with it, but because they do not emphasize sufficiently the seriousness of tonsillar infections. If, however, we can prevent some child from going through a short life with a damaged heart or kidney or can control the many swollen joints and the intense pain which accompanies them we have in a measure fulfilled our mission on earth.

There are a good many general practitioners, and a few laryngologists, who have not yet realized that cases of so-called acute articular rheumatism, acute nephritis, acute endocarditis, pneumonia, appendicitis, orchitis and many other acute infections may be the result of acute cryptogenic infection of the tonsils.

I have seen acute articular rheumatism and acute nephritis follow acute otitis media, and it is an established fact that typhoid fever enters through the lymphatics of the intestines and severe toxemia may follow acute inflammation of the lymphatics of the pharynx and epipharynx. The faucial tonsils are the most frequent sources of infection, shown by the many general infections that take place through the tonsils, pharynx and nasopharynx with its adenoid tissue, the peritonsillar tissue, the lymph nodes and the lymphatic tissue of the retropharynx, the lingual tonsil and the middle ear, teeth, gums and urethra. The "ring of Waldeyer" is the most vulnerable part of the body and the faucial tonsils the most frequent seat of inflammatory attacks. And it is now known that the streptococcus or other germs can enter the blood through the medium of the tonsils and attack the joints, heart and kidneys.

The specialist is not active enough in spreading these facts, and I include the pediatricist because he sees more of these cases than the laryngologist.

Many cases of acute nephritis, pericarditis, myocarditis, endocarditis, arthritis, chorea, neuritis, pleurisy, tuberculosis, iritis, phlebitis, osteomyelitis, Hodgkin's disease, asthma, rheumatic fever, chronic streptococcus arthritis, acute thyroiditis, phlyctenular conjunctivitis, systemic infection and certain forms of leukemia have been reported by men of wide experience.

A few examples of cases which came under my personal observation were:

Case I. Nephritis—a young man, aged 18 years, had acute lacunar tonsillitis. In three weeks his face and hands became edematous, and examination of the urine showed he had acute nephritis. He made a good recovery in five weeks.

Case 2. Rheumatism. A woman, aged 30, consulted me for a sore throat. The follicles of the pharynx were found to be enlarged and red, and the crypts of the tonsils inflamed and filled with cheesy debris. She complained of a pain in her chest which was found to be muscular. The patient would not consent to removal of the tonsils. The crypts were cleaned and painted. She consulted me several times each year for the same trouble. Six years ago she submitted to enucleation of the tonsils and has not suffered from the throat or chest pains since.

Case 3. Nephritis. A case of quinsy in a man aged 22. The abscess was opened. Urine found normal. One week later his eyelids were puffy, and urine showed acute nephritis with albumin, casts, and blood cells. He made a good recovery in a month.

Case 4. Nephritis. A young lady, of 18, was treated by her family physician for acute tonsillitis. She had had severe attacks and wanted the tonsils removed. In preparing for the operation, by mistake I was told the urine was normal. In the middle of the operation I was informed the urine contained considerable albumin, casts and some blood-cells. In five weeks all evidence of nephritis had disappeared notwithstanding she had been thoroughly etherized.

Case 5. A physician of 51 years was attacked with a lacunar tonsillitis. In five days his right big toe-joint became red, swollen and painful, and the condition was called gout. Urine negative. In one week the toe-joint became normal. Three days later the left ankle became swollen, red and painful. Diagnosis of streptococcus infection of the tonsils was then made. The tonsil crypts were curetted and painted with iodine and phenol. One week later the tonsils were enucleated, and long chain streptococcus recovered from the crypts of the tonsils, notwithstanding the curetting and painting with iodine and phenol solution. There are other cases of keratitis, rheumatism, nephritis, etc., which I will not mention.

My intention in the foregoing remarks was to convey the fact that from the abundance of clinical evidence and the laboratory findings we are forced to conclude that infection does take place through the tonsils.—Norton L. Wilson, *Jour. A. M. A.*, Oct. 7.

GEORGE J. ALEXANDER.

Chronic Local Infection of the Nose, Throat, Mouth and Ear.—While chronic local infection may be located anywhere in the body, certain anatomic structures are most frequently affected. For instance, those which possess recesses or pockets which communicate with the external world, examples of which are the meibomian glands, lacrymal glands, nasal accessory sinuses and mastoid cells, tonsils and adenoids, lingual tonsil, salivary glands and ducts, pulmonary alveoli and bronchi and mucous glands, together with structures connected with the skin, intestinal tract, vascular system, lymphatic system, genito-

urinary system, cavities in the teeth, recession of the gums, pyorrhea, etc. But I shall devote myself to the *chronic focal infections* of the mouth, nose, throat and ear, exclusively, in so far as they influence the other focal points of infection, secondarily, the secondary toxemia and changes in the tissues and fluids of the body. We should first know the body resistance and immunity, or normal conditions as in perfect health, which means all the functions of the body carried out without hindrance, body-weight normal and remaining so, a normal mental state without anger or worry manifested, besides the normal standards of anatomy and physiology. A thorough blood test, and physical examination will show the resistance of the body to disease.

Chronic diseases and chronic focal infection, especially those with pyogenic organisms, excessive use of stimulants, overeating and overworking contribute greatly to lowering the body vitality and its resistance to acute or intercurrent diseases.

Immunity may be normal or acquired, but is absent in most cases of chronic focal infection and only the best attention to the body functions, use of bacterine or vaccine, dietetic, medical and hygienic measures may prevent acute outbreaks. Hence, chronic focal infections must be completely eradicated to cure or prevent acute or intercurrent disease. Billings says some focal points of infection are embolic and cannot be reached very well by vaccines; here Bie's hyperæmia may be of some aid by bringing more vaccine-loaded blood to the part.

The *organisms* are mostly staphylococci, streptococci of various forms, *Bacillus coli communis* and *B. tuberculosis*. These may be found singly or as a mixture in any focus. However, the toxin or protein poisons, as Vaughn calls them, are all of the same deleterious action.

The *General Symptoms* may be expressed only as not feeling well, and frequent acute attacks of rhinitis, tonsillitis, pharyngitis, bronchitis, sinusitis, mastoiditis and rheumatic affection are some of the well known sequelæ.

Of the *local findings* pus is the most important. In the mouth carious cavities in the teeth with alveolar necrosis and fistulas are some of the most common, and pyorrhea alveolaris is a specific cause of focal infection, for the diagnosis of which the Roentgen ray is imperative.

In the nose involvement of the sinuses is detected by pus at the usual points and by Roentgenograms.

In the throat purulent secretions in the adenoids can be detected by use of Hays' pharyngoscope, Holmes' nasopharyngoscope, postnasal mirrors and the direct method with the use of a rubber catheter; and liquid pus or a caseous material can be expressed from the tonsils by pressing on the anterior pillar. Tenderness and redness are other valuable factors; the size of the tonsil having nothing to do with the amount of infection within it. The focal infections of the larynx,

trachea and bronchi are often secondary to sinus infection of foreign bodies in the bronchi.

There may be no visible pus in the *ear*, yet a Roentgenogram will show the entire mastoid to be involved. As for *treatment*, besides locating the focal point of infection the body resistance should be increased. The *tonsils* are the seat of focal infection twice as frequently as any other organ or part, and two-thirds as often as all other parts of the body combined. Complete tonsillectomy, autogenous vaccination, medical, hygienic and dietetic measures will quickly increase the antibodies and establish health.

Why are the tonsils and adenoids most frequently mentioned as the source of chronic focal infection, and why should they in preference to any other chronic focal infected point be attacked unless that other point is more manifestly possible the cause of the general condition? Because it has been proven that the tonsils and adenoid tissue in the Waldeyer ring has the greatest power of retaining infectious material and because the lymphatic distribution in these structures is very great and it has been noted by many laryngologists that an increase of weight and general well-being follows the removal of these offending organs, and other focal infections; as chronic suppurative otitis and chronic purulent sinusitis, as well as suppuration at distant points will be eradicated or improved by the above procedure. The essential point I wish to make in this paper is that by removing a definite focal point of chronic infection (tonsils) the resistance and healing power of the patient is given opportunity to recuperate and thus destroy other focal points of infection, and put the system in condition to ward off acute attacks.—Joseph C. Beck, *J. A. M. A.*, Nov. 7.

GEORGE J. ALEXANDER.

Case of Bilateral Facial Palsy, Peripheral.—After exposure to a draught of air at a time when the patient was over-heated a bilateral facial palsy developed. This was in the midst of a mild attack of grippe. There were severe transitory neuritic pains in the mastoid regions, the angles of the jaw and over the scalp. The condition apparently developed rapidly, while the patient was at breakfast; and it has remained permanent with but little improvement for many months since. The salivary flow has been diminished and the sense of taste impaired. The transitory facial paralyses are not uncommon, but this case is undoubtedly unusual.—T. B. Throckmorton, *Jour. A. M. A.*, Oct. 3, 1914.

DOUGLAS MACFARLAN.

